An Investigation into Playful Interactive Experiences within Public Space

Anna Louise Merry

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy at De Montfort University in the Department of Theory and Practice of Design and Innovation

April 2018

Abstract

This investigation aimed to produce methods of regeneration for underutilised public areas, encouraging social and spatial interactions through play permission. Approached from an interdisciplinary perspective, design and artistic installation merge with social science. Central skills of communication develop at a young age where play is a major contributor, but in a globalised world interactions are increasingly 'virtual' rather than physical. Research hypothesis suggests playful designs as catalysts for change will alter spatial usage and user perceptions, thus creating exciting places for public life. Ideally a 'playful interactive experience' is seemingly humorous participatory design unexpectedly intervening with public space, allowing participation with an ephemeral experience.

Investigation contributions are frameworks for the creation and evaluation of playful interactive experiences, to be utilised at academic or professional levels, aiming for: playful environment creation, and analysis of user interactions.

Design for research methodology tested framework parameters through the utilisation of design artefacts. Multiple methods were employed to triangulate results: onsite questionnaires, focus groups, and professional interviews provided the study with public and professional opinions. Secondly, observational behavioural mapping displays visual and statistical outcomes for data comparison.

Modified user perception, increased usage and positive social engagements reveal that: play permission implemented correctly is a successful method for place creation. Conclusions indicate that humorous outcomes can be enjoyed by all as economic, fun and non traditional solutions to 'placemaking.' Findings allowed for framework development in their concluding form. Future recommendations suggest a handbook detailing the playful interactive experience. New questions prompt discussions into: impacts on anti-social behaviour, continued employment over greater time periods and additional spatial settings.

This research was carried out by De Montfort University, aided by Frederick University and Urban Gorillas, NGO. It was an investigation into playful interactive experiences with intentions of improving sociability and perceptions, promoting creativity and usage within underutilised public spaces.

Acknowledgements

The author wishes to thank the following people for their input, support, advice and guidance which has resulted in the completion of this work:

The author would firstly like to thank her supervisors at De Montfort University, Leicester, Dr Robert Chen and Ms Rebecca Graaff for their continued help and constant support throughout this process. Additionally this study would not have existed if it was not for the wonderful guidance, advice and encouragement of further studies from Mr David Hartwell during the authors time at De Montfort under the MA programme of Design Innovation.

Furthermore this study would not have been possible without the support, both financially and personally of my fantastic family who were always beside me supporting this research. Particularly to my parents who have been taking care of my beautiful daughter while her mother's attention was concentrated on her research.

Much of the preliminary design work would not have been possible without the enthusiasm and encouragement of Constantinos Kounnis and the faculty of Fine and Applied Arts at Frederick University, Cyprus thank you for supporting and hosting much of the design work illustrated within this thesis. It is also important to thank my positive 2nd and 3rd year Interior Design students who gave their time and energy to assist in the design, implementation and observation of the many of the playful solutions.

A major part of this research would not have been achievable without the collaboration of the Green Urban Lab project that is made possible through funding from the EEA Grants/Norway Grants. Additional thanks are to Urban Gorillas NGO, Cyprus and Marco Canevacci founder of Plastique Fantastique, Berlin, for the opportunity to create such impactful designs together and for their support and cooperation in the PhD research, along with the evaluation process. A fundamental acknowledgement is to Dr Rene Carraz and Veronika Antoniou for their extended professional collaboration and kindness.

Furthermore thank you to the professionals who gave their time in the support of the contribution and evaluation of the design artefacts and final outcomes of this investigation.

Contents

	Page
TITLE PAGE	
ABSTRACT	i
ACKNOWLEDGEMENTS	ii
CONTENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER 1. Introduction	1
1.1 Motivation and Key issues	3
1.2 Background and Inspiration	5
1.3 Related Works	7
1.4 Aims and Objectives of the Research	11
1.5 Framework Development	12
1.6 Methodology	14
1.6.1 Framework Development	14
1.6.2 Framework Implementation	16
1.6.3 Framework Evaluation	16
1.6.4 Summary	17
1.7 Chapter Overview	18
1.8 Research Limitations and Constraints	20
1.8.1 Definitions	20
1.8.2 Limitations of Research	22
1.9 Summary	22
CHAPTER 2. Review of the Literature Area	24
2.1 Introduction	25
2.2 Public Space	28
2.2.1 Problems in Public Space	29
2.2.2 Contemporary Public Space Solutions	33
2.2.3 The City in Context	35
2.2.4 Space and Place	37
2.2.5 Placemaking	39
2.2.6 Summary	43
2.3 Play	45
2.3.1 Why Play?	45
2.3.2 The History of Play	46
2.3.3 Defining Play	48
2.3.4 Playfulness in Adulthood	50
2.3.5 Play and Productivity	53
2.3.6 Intergenerational Play	54
2.3.7 Summary	56
2.4 Playful Interactions	57
2.4.1 Introduction	57
2.4.2 Experience, Pleasure and Emotion a Playful Approach	59
2.4.3 Playful Frameworks	63
2.4.4 Approaches to a Playful Experience	67

2.4.5 Art and Design as Creative Engagement 69
2.4.6 Summary 79
2.5 Conclusions 80

CHAPTER 3. Research Methodology 82

3.1 Introduction 83
3.2 Frameworks for Constructing and Evaluating the Playful Interactive Experience 84
3.3 Multi – Method Approach to Design Research 86
3.3.1 Research for Design 93
3.3.1.1 Protocol 94
3.3.2 Expert Interviews 97
3.3.2.1 Protocol 97
3.3.3 Focus Group Feedback 99
3.3.3.1 Protocol 99
3.3.4 Questionnaire Surveys 102
3.3.4.1 Protocol 102
3.3.5 Observational studies 106
3.3.5.1 Protocol 107
3.3.6 Summary 109
3.4 Conclusion 109

CHAPTER 4. Framework Development 110

4.1 Introduction 111
4.2 Secondary Research Findings 113
4.2.1 Conclusions and Support from Previous Research Findings 113
4.2.2 Review of the Literature Area 113
4.2.3 Summary 115
4.3 Expert Interviews 116
4.3.1 Interview 1 117
4.3.1.1 Findings 117
4.3.2 Interview 2 118
4.3.2.1 Findings 118
4.3.3 Summary 119
4.4 Design Analysis 121
4.4.1 Selected Projects 121
4.4.2 Findings 126
4.4.3 Summary 128
4.5 Framework Amendments 129
4.6 Framework for Interaction Analysis 136
4.7 Conclusion 138

CHAPTER 5. Framework Implementation 140

5.1 Introduction 141
5.2 Framework Implementation 143
5.2.1 Site Selection 143
5.3 Design Process 146

5.3.1 Stairway Installation 147
5.3.2 Green Area Installation 151
5.3.3 Summary 154
5.4 Evaluation 155
5.4.1 Onsite Questionnaire Survey 155
5.4.1.1 Findings 155
5.4.1.2 Summary 157
5.4.2 Observational Studies 158
5.4.2.1 Findings 158
5.4.2.2 Summary 162
5.4.3 Expert Interview 164
5.4.3.1 Findings 164
5.4.3.2 Summary 166
5.4.4 Designer Focus Group Feedback 167
5.4.4.1 Findings 167
5.4.4.2 Summary 169
5.5 Design Artefact Evaluation 170
5.5.1 Summary 172
5.6 Framework Amendments 174
5.7 Summary and Conclusions 181

CHAPTER 6. Framework Evaluation 183

6.1 Introduction 184
6.2 Site Selection 187
6.3 Design Artefact Production 189
6.3.1 Expert Feedback 192
6.3.1.1 Findings 192
6.3.2 Design Analysis 194
6.4 Site Evaluation 196
6.4.1 Pre – Design Focus Groups 197
6.4.1.1 Findings 197
6.4.1.2 Summary 199
6.4.2 Observational Behavioural Mapping 200
6.4.2.1 Findings 201
6.4.2.2 Summary 207
6.5 Design Implementation 208
6.6 Framework Evaluation 210
6.6.1 Observational Studies 212
6.6.1.1 Findings: Count up of Users 212
6.6.1.2 Count up of Actions – Limassol 214
6.6.1.3 Count up of Actions – Nicosia 215
6.6.1.4 Behavioural Mapping of User Actions- Limassol 216
6.6.1.5 Behavioural Mapping of User Actions- Nicosia 221
6.6.1.6 Summary 223
6.6.2 Onsite Questionnaire Survey 224
6.6.2.1 Findings 225
6.6.2.2 Summary 229
6.7 Post Design Evaluation 230
6.7.1 Post Design Focus Group 231
6.7.1.1 Findings 231

6.7.1.2 Summary 232
6.7.2 Expert Feedback 232
6.7.2.1 Findings 233
6.7.2.2 Summary 234
6.8 Conclusion 235

CHAPTER 7. General Discussions 237

7.1 Introduction 238
7.2 Intra Discussion 239
7.2.1 Subject and Site Selection 239
7.2.2 Research Methods 240
7.2.2.1 Research for Design 241
7.2.2.2 Observational Studies 242
7.2.2.3 Expert Interviews 243
7.2.2.4 Questionnaire Survey 244
7.2.2.5 Focus Group Feedback 244
7.2.2.6 Summary 245
7.3 Inter Discussions 247
7.3.1 Connection between Methodologies 247
7.3.2 Play Permission as a Catalyst for Social and Spatial Interaction 248
7.3.2.1 Increased Social Interactions 249
7.3.2.2 Increased Spatial Interactions 252
7.3.2.3 Encourage Spontaneity as a Catalyst for Interaction 257
7.3.2.4 Utilise Otherwise Lost Spaces 258
7.3.2.5 Allow Freedom for the Creativity of Users 260
7.3.2.6 Enhance a Sense of Place 263
7.2.3.7 Summary 264
7.3.4 Framework Amendments 264
7.3.4.1 Framework for Constructing the Playful Interactive Experience 266
7.3.4.2 Framework for Interaction Analysis 276
7.3.5 Summary of Research Findings 282
7.4 Conclusion 284

CHAPTER 8. Conclusions and Recommendations 286

8.1 Conclusions 287
8.2 Original Contributions 292
8.3 Future Recommendations 293
8.4 Achievement 294

Reference List 296

Image Reference 311

Bibliography 315

Appendices 319

Appendix 3.1: 'Let's Intervene' Project Brief 320
Appendix 3.2: Interview Consent Form 322
Appendix 3.3: Interview Guiding Questions 324
Appendix 3.4: Focus Group Guiding Questions 330
Appendix 3.5: Questionnaire Survey General Consent Form 333
Appendix 3.6: Questionnaire Surveys 335
Appendix 3.7: General Consent Poster for GUL Questionnaire 344
Appendix 3.8: General Consent Poster for Observational Studies 345
Appendix 3.9: Observational Tick Chart (Let's Intervene) 346
Appendix 3.10: Behavioural Mapping Chart (GUL) 347
Appendix 3.11: Location Maps: Limassol Castle and Bank of Cyprus Cultural Foundation, Nicosia 348
Appendix 4.1: Interview 1: Findings 352
Appendix 4.2: Interview 2: Findings 354
Appendix 4.3: Design Analysis 357
Appendix 4.4: Design Analysis Findings 373
Appendix 5.1: Let's Intervene Questionnaire Findings 376
Appendix 5.2: Level of User Interaction: Findings Overall Data Comparison 386
Appendix 5.3: Interview 3: Findings 391
Appendix 5.4: Designer Feedback Focus Group: Findings 394
Appendix 5.5: Framework For the Creation of the Playful Interactive Experience Version 2 (Explained) 397
Appendix 6.1: Interview 4: Findings 399
Appendix 6.2: Pre-Design Focus Group: Findings 402
Appendix 6.3: Count up of observed users: Findings pre and during event 411
Appendix 6.4: User Stationary Actions: Findings pre and during event 415
Appendix 6.5: Behavioural Mapping: User Stationary Actions: Findings pre and during event 417
Appendix 6.6: Questionnaire Findings (GUL) 447
Appendix 6.7: Post Event Focus Group: Findings 464
Appendix 6.8: Interview 5: Findings 466
Appendix 7.1: User Actions Cross-referenced 468
Appendix 7.2: Levels of Users Spatial Interactions 471

List of Tables

		Page
Table 3.1:	Expert Interview Overview	98
Table 3.2:	Focus Group Overview	100
Table 3.3:	Questionnaire Survey Overview	103
Table 3.4:	Observational Studies Overview	107
Table 4.1:	Benchmarked Frameworks for Playful Interactivity and Place Creation	115
Table 4.2:	Expert Conclusions	120
Table 4.3:	Best Practices for Playful Interactivity and Place Creation	120
Table 4.4:	Evaluating Playful Interactivity	126
Table 4.5:	Evaluating Place Creation	127
Table 4.6:	First Stage Framework for the Creation of Playful Interactive Experiences in Public Space	128
Table 4.7:	Framework Amendments	129
Table 5.1:	Research for Design Event Timeframe	146
Table 5.2:	Data Findings for Framework Amendments	174
Table 5.3:	Amendments: Framework for the Construction of the Playful Interactive Experience	1790
Table 6.1:	Schedule of Observational Data Collection	200
Table 6.2:	Count up of Observed Users	202
Table 6.3:	Pre Design Actions: Limassol	204
Table 6.4:	Pre Design Actions: Nicosia	204
Table 6.5:	Pre and During Design Count up Comparison: Limassol	212
Table 6.6:	Pre and During Design Count up Comparison: Nicosia	213
Table 6.7:	Pre and During Design Actions Compared: Limassol	214
Table 6.8:	Pre and During Design Actions Compared: Nicosia	216
Table 7.1:	Advantages and Disadvantages of Methodologies	246
Table 7.2:	Questionnaire Findings: Did the inflatable provoke any discussion?	249
Table: 7.3:	Questionnaire Findings: Were these discussions with...	249
Table 7.4:	Comparison of User Conversation Pre and During Design Implementation	250
Table 7.5:	Questionnaire Findings: How did you hear about the inflatable?	251
Table 7.6:	Levels of Spatial Interaction, Limassol (Overall Totals)	253
Table 7.7:	Levels of Spatial Interaction, Nicosia (Overall Totals)	254
Table 7.8:	Questionnaire Findings: To what degree did the inflatable attract you to enter the space?	255
Table 7.9:	Questionnaire Findings: After your experience today have your thoughts toward the space changed?	256
Table 7.10:	Questionnaire Findings: Did you play today?	260
Table 7.11:	Questionnaire Findings, Did you take any photos or videos? Will you upload to social media?	261
Table 7.12:	Number of User Actions (Photography) Compared	262
Table 7.13:	Questionnaire Findings, how would you assess the impact on your day?	263
Table 7.14:	Amendments: Framework for the Construction of the Playful Interactive Experience	268
Table 7.15:	Amendments: Framework for Interaction Analysis	280

List of Figures

		Page
Figure 1.1:	Derby Market Square, 2008	5
Figure 1.2:	Derby Market Square re-design, Merry (2009)	5
Figure 1.3:	The Red Ball Project, Kurt Perschke, London, 2012	6
Figure 1.4:	Before I Die, Candy Chang, New Orleans, 2011	6
Figure 1.5:	Piano Stairs, Volkswagen Fun Theory, Sweden, 2009	6
Figure 1.6:	Methodology Overview	15
Figure 1.7:	Chapter Overview	19
Figure 2.1:	Review of the Literature Area, Overview	25
Figure 2.2:	'The Key of Dreams,' Rene Magritte, 1930	38
Figure 2.3:	Place Diagram (Project for Public spaces, 2000)	41
Figure 2.4:	Juicy Salif, lemon squeezer by Philippe Starck for Alessi (1990)	62
Figure 2.5:	Guitard, et al, 2005, Components of Playfulness	63
Figure 2.6:	A Summary of theories that contributed to the pleasure framework development. (Costello and Edmonds, 2007)	64
Figure2.7:	A Comparative Framework of the PLEX scenario and the '13 pleasure categories of play' (Korhonen, Montola and Arrasvuori, 2009)	65
Figure 2.8:	Four Interaction Phases (Vogel and Balakrishnan, 2004)	66
Figure 2.9:	The Audience Funnel (Muller et al, 2010)	66
Figure 2.10:	Candy Chang, I wish this was....	67
Figure 2.11:	Electricity Usage Installation	67
Figure 2.12:	Interactive Art Installations	68
Figure 2.13:	Playful Interactions, London Southbank, 2015	71
Figure 2.14:	'Designing Playful Cities' Installation Participants (MODA, 2018).	72
Figure 2.15:	Public Art	73
Figure 2.16:	Interactive Art Installations (Low/Non-Tech)	74
Figure 2.17:	Installation Art	75
Figure 2.18:	Urban Interventions	76
Figure 2.19:	Tactical Urbanism	76
Figure 2.20:	Street Art/DIY Urbanism	77
Figure 2.21:	Persuasive Games/Urban Games	78
Figure 3.1:	Karl Marx Bonsai, Plastique Fantastique, Berlin, 2008	84
Figure 3.2:	Swing with me; Imagine the Roads Festival, Nicosia, 2015	85
Figure 3.3:	Framework Methodology	91
Figure 3.4:	A Typical research for design model (Scrivener, 2011)	94
Figure 3.5:	Co-production methodology for the Phd Researcher and Undergraduate Design Student (Graaff and Merry, 2015)	95
Figure 3.6:	Interview Methodology	97
Figure 3.7:	Focus Group Methodology	99
Figure 3.8:	Questionnaire Methodology	104
Figure 4.1:	Framework Development Methodology	112
Figure 4.2:	Interview Methodology	116
Figure 4.3:	The Red Ball Project	119
Figure 4.4:	Daily Tours Les Jours, Musée des possible, Montreal, 2010	121
Figure 4.5:	The Red Ball Project, Kurt Perschke, London, 2012	122
Figure 4.6:	Red Swing Project, University of Austin, Texas, 2007 – present	122
Figure 4.7:	Piano Stairs, Volkswagen Fun Theory, Sweden, 2009	123
Figure 4.8:	Candy Chang, Before I Die, 2011	123

		Page
Figure 4.9:	The world's deepest bin, Volkswagen Fun Theory, Sweden, 2009	124
Figure 4.10:	Karl Marx Bonsai, Plastique Fantastique, Berlin, 2008	124
Figure 4.11:	Thomas Heatherwick, Spun Installation, London, Southbank, 2010	125
Figure 4.12:	Framework for Interaction Analysis Version 1	136
Figure 5.1:	Framework Implementation Methodology	142
Figure 5.2:	Frederick University, Nicosia, Cyprus (Google Maps)	144
Figure 5.3:	Frederick University, Nicosia, Cyprus	144
Figure 5.4:	Main Entrance Staircase, Frederick University, Nicosia, Cyprus	145
Figure 5.5:	Green Area, Frederick University, Nicosia, Cyprus	145
Figure 5.6:	Constructing the Playful Interactive Experience Version 1	146
Figure 5.7:	Stairway Installation – Concept Development to Final Design	147
Figure 5.8:	Design Implementation 1	147
Figure 5.9:	Design Implementation 1: Playful Interactions	148
Figure 5.10:	Green Area Installation – Concept Development to Final Design	151
Figure 5.11:	Design Implementation 2	152
Figure 5.12:	Design Implementation 2: Playful Interactions	152
Figure 5.13:	Questionnaire Findings: Have you ever experienced an interactive space or art installation before?	156
Figure 5.14:	Questionnaire Findings: Do you believe the designs had a positive effect on the general mood of the public?	156
Figure 5.15:	Questionnaire Findings: Do you believe that the element of fun and interaction within a space would be an added benefit?	157
Figure 5.16:	Questionnaire Findings: Over time an area/space can become boring. If a space was frequently transformed would this make a space more appealing?	157
Figure 5.17:	Framework for Interaction Analysis Version 2	158
Figure 5.18:	Comparing Individual and Multiple levels of Interaction	159
Figure 5.19:	Elastic Installation: The Direct Individual Experience	159
Figure 5.20:	Stairway Installation: The Direct Collaborative Experience	159
Figure 5.21:	Elastic Installation: The Direct Collaborative Experience	159
Figure 5.22:	Secondary Interactions	161
Figure 5.23:	Follow on Actions Visual Communication: Direct Photo Opportunity	161
Figure 5.24:	Follow on Actions Visual Communication: Secondary Photo Opportunity	161
Figure 5.25:	Follow on Actions: Dialogue Between Friends	161
Figure 5.26:	Follow on Actions: Dialogue Between Strangers	161
Figure 5.27:	Follow on Actions: Transfer to Social Media	162
Figure 5.28:	Re-designed Framework for the Creation of the Playful Interactive Experience	175
Figure 5.29:	Basic Framework for Interaction Analysis Version 3	178
Figure 6.1:	Playful Interactions	184
Figure 6.2:	Framework Evaluation Methodologies	185
Figure 6.3:	GUL Sites	186
Figure 6.4:	The Medieval Castle of Limassol	187
Figure 6.5:	Bank of Cyprus, Cultural Foundation, Nicosia	188
Figure 6.6:	Workshop Process	189
Figure 6.7:	DNA Tube Design Visualisations and Final Implementation	190
Figure 6.8:	Bubble Design Visualisations and Final Implementation	191
Figure 6.9:	Site Evaluation Methodology	196

		Page
Figure 6.10:	Observational Locations	201
Figure 6.11:	Behavioural Mapping of User Actions (Pre-Design)	205
Figure 6.12:	Behavioural Mapping of User Actions (Pre-Design)	206
Figure 6.13:	Behavioural Mapping of User Actions (Pre-Design)	206
Figure 6.14:	Behavioural Mapping of User Actions (Pre-Design)	207
Figure 6.15:	Limassol Site, Design Implementation	208
Figure 6.16:	Nicosia Site, Design Implementation	209
Figure 6.17:	Camera Placement, Limassol and Nicosia	210
Figure 6.18:	Framework Evaluation Methodology	211
Figure 6.19:	New Spatial Usage	213
Figure 6.20:	User Actions, Limassol	215
Figure 6.21:	User Actions, Nicosia	216
Figure 6.22:	Behavioural Mapping: Pre and During Design Implementation, Limassol	217
Figure 6.23:	Behavioural Mapping: Pre and During Design Implementation, Limassol	218
Figure 6.24:	Behavioural Mapping, Pre and During Design Implementation, Limassol	219
Figure 6.25:	Behavioural Mapping, Pre and During Design Implementation, Limassol	220
Figure 6.26:	Behavioural Mapping: Pre and During Design Implementation, Nicosia	221
Figure 6.27:	Behavioural Mapping: Pre and During Design Implementation, Nicosia	227
Figure 6.28:	Questionnaire Findings: How did you hear about the inflatable?	225
Figure 6.29:	Questionnaire Findings: To what degree did the inflatable attract you to enter the space?	226
Figure 6.30:	Questionnaire Findings: After your experience today have your thoughts toward the space changed? Would you say that they…	226
Figure 6.31:	Questionnaire Findings: How would you assess the impact that your experience of the Inflatable has had on your day?	227
Figure 6.32:	Questionnaire Findings: I would like to see more playful designs within the city	228
Figure 6.33:	Questionnaire Findings: Did you play today?	228
Figure 6.34:	Post Design Evaluation Methodology	230
Figure 7.1:	Research for Design, Let's Intervene	242
Figure 7.2:	GUL Project, Nicosia and Limassol	244
Figure 7.3:	Framework for Interaction Analysis with the Playful Interactive Experience (Version 3)	248
Figure 7.4:	Levels of User Interaction	248
Figure 7.5:	Increased Sociability, Limassol	250
Figure 7.6:	Increased Spatial Interactions, Limassol and Nicosia	252
Figure 7.7:	Increased Spatial Interactions, Limassol	253
Figure 7.8:	Increased Spatial Interactions, Nicosia	255
Figure 7.9:	Encouraged Spontaneity	257
Figure 7.10:	Reutilised Spaces	258
Figure 7:11:	Inflatable Placement	259
Figure 7.12:	Freedom for the Creativity of Users	260
Figure 7.13:	Photographic Interactions	261

Page

Figure 7.14:	Framework for Interaction Analysis with the Playful Interactive Experience (Version 3)	264
Figure 7.15:	Framework for the Creation of the Playful Interactive Experience (Version 2)	265
Figure 7.16:	Framework for Constructing the Playful Interactive Experience (Short Version)	270
Figure 7.17:	Framework for Constructing the Playful Interactive Experience (Long Version) part a.	271
Figure 7.18:	Framework for Constructing the Playful Interactive Experience (Long Version) part b.	272
Figure 7.19:	Framework for Constructing the Playful Interactive Experience (Long Version) part c.	273
Figure 7.20:	Framework for Constructing the Playful Interactive Experience (Long Version) part d.	274
Figure 7.21:	Framework for Constructing the Playful Interactive Experience (Long Version) part e.	275
Figure 7:22:	Photographic Interactions	277
Figure 7.23:	Additional Interactions and Follow on Actions	277
Figure 7.24:	Additional Interactions and Follow on Actions	278
Figure 7.25:	Framework for Interaction Analysis with a Playful Interactive Experience	279

Chapter 1

Introduction

1. Introduction

The ideal of the *'playful interactive experience'*[1] is the implementation of participatory design, where all of society is free to be involved. It allows the passerby to impulsively, partake or simply observe an out of the ordinary, ephemeral experience, permitting the general public to contribute to an 'installation'[2] which may have previously been implemented into gallery or invited situation. The playful interactive experience is usually one of humour which unexpectedly intervenes with everyday surroundings to increase users' experience of 'place'.[3]

Can the experience of the visual arts within public space allow for increased creativity and interaction? This research questions whether playful interactive experiences can positively transform our public spaces and social interactions. The investigation proposes easy to follow frameworks for the creation and evaluation of a playful experience for use by fellow designers and researchers.

Durkheim (1997) anticipated that when the act of social interaction declines, our social bonds become increasingly impersonal, eventually reducing our skills and methods of communication. Incorporated research has strived to establish how we can regain a sense of 'place' within public areas to give back underutilised spaces to communities, whilst in parallel encouraging sociability and interaction of the public. Research has been approached from an interdisciplinary perspective where design and artistic installation merge to meet with social science. It is important to highlight that the development of research outcomes could not be possible without a co-productive 'research for design,' methodology based upon the suggestions of Scrivener (2011). Design practice has influenced the investigative outcomes, conclusions and contributions.

The theory and practice of 'Placemaking'[4] within an Urban Design[5] context are the foundations of this investigation, influencing and confirming that the spatial qualities a place

[1] An event where one can be spontaneously involved in a temporary narrative of play permission which is non habitual in order to increase an experience of place.
[2] Sturken, (2000) summarises that the meaning of installation is "created in the moment when a viewer is interacting with it – walking into and through it standing within it, watching or even touching it" (pp.287).
[3] Barker refers to space as an abstract idea of empty and dead space that is "filled with various concrete, specific and human places," but distinguishes between space and place "on the grounds that the latter are the focus of human experience, memory desire and identity" (pp. 326).
[4] Placemaking aims to create environments inclusive for all.
[5] In line with place-maker goals; urban design theorists merge aesthetics with theory for the overall goal of solving contemporary social and spatial issues (Carmona, 2014a).

evokes is in equal balance with the engagement of the user (PPS[6], 2000). "Public Places afford casual encounters in the course of a daily life that can bind people together and give their lives meaning and power" (Carr et al, 1993, pp.45), by allowing public spaces to set a stage for public life we allow freedom for all. A fundamental element of 'placemaking' is to employ fun uses and activities, pointing towards playful experiences as possible solutions. Through play permission as a catalyst for active engagement this research builds a methodology for social change, this stimulus intends to be the 'playful interactive experience.'

1.1 Motivation and Key Issues

> *"Throughout history, urban public spaces have always played a central role in social life of cities. But they have lost their significance and are no longer the main nodes of all the social networks. Technological changes, larger populations and specialisations of activities have led to a fragmentation of functions and a despatialisation of the public sphere."*
>
> (Madanipour, 2003, pp. 128)

The key concern motivating this investigation is the lack of social interaction witnessed within public spaces today. Research reveals that public spaces are generally viewed as environments which segregate individuals from one another (PPS, 2000), outlining that new public spaces need to be applicable to all members of the public despite background or diversity of needs (Worpole and Knox, 2007). Preceding observational studies and literature searching, clearly reveal minimal use of many public spaces today (PPS, 2000; Madanipour, 2003; McQuire, 2008; Merry, 2009; Neal, 2010; Ghel, 2010; Carraz and Antoniou, 2015). Furthermore outlining that numerous public spaces do not meet the needs of modern day society resulting in a renewed need for the philosophy, design and utilisation of public spaces (Amin, 2006; Gaventa, 2006; Carmona, 2010a, 2010b, 2014a, 2014b; Wunderlich, 2014). Public opinion revealed that "declining sociability is an issue that is increasing, strangers no longer interact, our world is changing and our communities are growing further apart" (Merry, 2009. pp.1).

It is important to take account of the contemporary societies in which these spaces are situated and our undeniable increase in interactions with technology and social media. In the USA 92% of 2013 mobile phone sales were smartphones (Mintel, 2014a), additionally in the UK tablet ownership, had reached 35% as of April 2013 (up from 24% six months earlier)

[6] Projects for Public Spaces (PPS)

(Mintel, 2014b). It is evident that a high percentage of the world wide population is increasingly using smart phones or tablets.

> *"We now spend more time on our smartphones than with our partner, according to a new study. The average smartphone user tends to spend two hours (119 minutes) a day using their gadget. Yet, the amount of time we spend with our other halves per day is just 97 minutes - a third less–on average."*
>
> (Mail Online, 2013, Para. 1)

We observe a rise in human computer interaction (HCI) but a dramatic decline in physical, social and spatial communication. Public space is an area that affects all aspects of society; it may be defined as an area which is: "accessible to all groups, allows freedom of action, permits inclusion and privilege of common ownership" (Carraz and Antoniou, 2015, pp. 46), or "the stage upon which the drama of communal life unfolds, thus becoming grounds for play and relaxation" (Carr et al 1993, Pp.3.). Despite these definitions many of our public spaces discourage social interaction; many even create segregation (PPS, 2000).

In an attempt to bring public space back to its ideal situation as free and open to all, this research strives to create playful methods and opportunities triggering users to regain a sense of social and spatial interaction in our contemporary lives, deeming the research to be a significant study benefiting our generation and the generations to come. These aims continue to satisfy the objectives of sustainable development. Outlined by the Brundtland report: "sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environmental and Development, 1987).

Public 'space' as an entity will always exist; the most famous, used and talked about public spaces evoke an experience, for example feeding the birds in Trafalgar square or throwing a coin into the Trevi fountain. In these cases it is the experience and excitement found within that attracts users, fundamentally it is the element of 'place' which these spaces evoke.

The feeling of space suggests a void or emptiness, which in turn induces no sense of feeling or emotion. Classic theorists, Plato and Aristotle saw space as a void, whereas place was seen as the 'experience' contained within (Bucsescu and Eng, 2009). In short it is the enclosed elements which have the possibility to turn space into place. This notion of the spatial experience gives rationale for why many of our public spaces fail; little attention to the 'experience' of space has been given in recent years. When taking this back to the designer, architect or planner in spatial re-generation, 'experience' of place should become a fundamental goal of the design process. Additional site requirements, safety elements, and

other fundamentals of the project brief should run parallel to this notion if a spatial design is to be successful.

The experience of place within this body of research has been linked to the primary nature of play, questioning if the essence of play injected into our daily routine is a viable solution to a global problem. Playful interactive experiences have the power to transform space into place, by allowing unused areas to become centres of activity. Through the introduction of non or low technological spatial events, in a playful and interactive context we have the potential to increase sociability, creativity and mood of the public.

1.2 Background and Inspiration

Previous research supporting the growing body of research into playful interventions was the re-development of Derby Market Square UK (figures 1.1 /1.2), under the MA programme entitled: 'The exchange and relationship between interior and exterior spaces: a new public installation incorporating an interactive design' (Merry, 2009). The research project stated that:

> *"Many public spaces have been designed to be looked at but not touched, new public spaces need to be exciting in order to attract users. By incorporating interactions people can experience a space that does not only connect with its surroundings but also where people can form a relationship with both the space and other users. Experience shapes space and without an experience a space is likely to become boring and unused"* (pp.1).

Figure 1.1: Derby Market Square, 2008 *(Personal Image)*

Figure 1.2: Derby Market Square re-design (Merry, 2009)

The research project recommended that a potential answer to social interaction was through exchange, cohesion and communication in the form of playful and interactive design implementations, additionally concluding that a playful exchange had the potential to relieve the stresses and strains of modern life. Through design outcomes users were allowed to freely move around their existing space, while experiencing their usual daily routine within a new and playful spatial experience.

Figure 1.3:
The Red Ball Project
Kurt Perschke
UK
2012
(Image Courtesy of Kurt Perschke)

Figure 1.4:
Before I Die
Candy Chang
New Orleans
2011

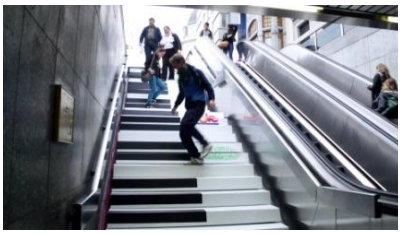


Figure 1.5:
Piano Stairs
Volkswagen Fun Theory
Sweden
2009

Furthermore current design works act as inspiration for the research project. Seen in figures 1.3-5 the works of Kurt Perschke, Candy Chang and the Volkswagen Fun Theory, all share similarities in design outcomes and concepts by primarily deal with issues of playful spatial relationships for a deeper purpose.

Red Ball Project: Kurt Perschke utilises his artistic talents in order to create encounters with the everyday experience. The implementation of the large red ball invites users to engage in a participation of the game, the surrounding architecture and the immediate public. In an email conversation on the 10th November 2012 Perschke states that the true essence of the red ball project is to engage and collectively imagine. The project is now in its 17th year of travel around the globe creating a 'developing story' in order to judge how each city and their communities respond to the invitation of the red ball (Perschke, 2001).

Before I Die: The project strived to create a reminder of what is important to people in life, the implementation of a large blackboard with a simple line, 'before I die,' allowed passersby to complete this important issue. The project evoked extremely positive responses making this experiment a success. It has now been implemented in 30 languages and more than 60 countries. Beginning as a seemingly serious project the subjects' nature

has been approached in a playful and interactive context, leaving memories and messages to the people who will later interact with the project (Chang, and Reeves, 2012).

Piano Stairs: The Piano Staircase was created as part of the Volkswagen Fun Theory. The Fun Theory initiative aims to "change people's behaviour for the better through the element of fun" (Volkswagen, 2009, para.1). The piano stairs aimed to promote users to take the stairs rather than the escalator aspiring to increase the mood of users along with encouraging exercise and healthy living. The element of fun intervening with the daily routine was integrated playfully into the everyday habit of the passersby. The initiative resulted in 66 % more people taking the stairs rather than before, prompting that fun and playfulness can definitely have positive effects on our societies.

1.3 Related Works

In any discussion of public space, the concept of 'placemaking' is an initial scope of research covering regeneration strategies within both theoretical and practical context (Carmona, 2010a). The most formidable debates are that of Lynch (1960); Jacobs (1961); Whyte (1980); Newman (1966); Oldenburg (1991); Carr et al (1993); Engwicht's (1999); Francis (2003); Madanipour, (2003); Gehl (2010) and Carmona (2010a, 2010b). Jacobs' (1961) focus was the larger city density, theorising that activating our streets during different times of the day brings life to cities. Whereas Whyte (1980) focused on public space as fundamental to the quality of life of the individual along with the opinion that we can no longer purely theorise public space, we must engage with its users. In later theory, Oldenburg (1991) brings into play the idea that cities need a 'third place,' our homes and workplaces are not enough, a third social space allows us to have more creative and social interactions is needed. In many cases this 'third place' has been viewed as a social club, bar or restaurant, the dilemma with the consideration of these spaces as a third dimension is the commercial aspect. The community should be permitted to visit a free and open space to embrace and enjoy, not segregating the public into commercial spaces due to social status, culture, wealth or gender. Engwicht's (1999) approach of regeneration creates a further conceptual dimension of public space, encouraging designers and planners to regenerate unused or forgotten spaces such as the pavements outside our houses. These everyday transition spaces in turn allow for spontaneous interactions and spur-of-the-moment exchanges, which in turn facilitate in the re-generation of our communities. Later views of

Gehl (2010) leaning heavily on those of Whyte suggesting that where people go, others will come, and through an inclusive and well designed public space, this domino effect will occur.

The non-profit organisation 'Projects for public spaces' (1975-present) was founded to expand upon the work of the early 'place-makers' and continues to build upon and publish numerous research surrounding 'placemaking' strategies. Additionally their resources outline problems within public space and display key principles regeneration. A notable research method created by project for public spaces is the 'Place Diagram'[7] "The Place Diagram is one of the tools PPS has developed to help communities evaluate places" (PPS, 2000, pp.17), representing key attributes, intangible qualities, and measurable data.

Further contemporary theorists discuss that now is a highly exciting time for the design and regeneration of our public spaces, arguing that our sustainable knowledge, high quality contemporary materials, design aesthetics and innovative solutions are a way forward (Gaventa, 2006; Whybrow, 2010). Nostalgia is an issue raised during the discussions of public space design which has been considered as a negative attribute when used in a 'copy-paste' of the past method, but when researched, developed and employed correctly nostalgia can be a successful inspiration as in the case of Lefaivre and Doll (2007). Their key study displayed in, *'ground up city: play as a design tool,'* viewed the playground as a nostalgic element of the city, observing that the addition of the recognisable playground increases public space usage and exploration. The polycentric theory, meaning a city with multiple centres was employed within their research model, formulating the contemporary playground as the focal point of these multiple centres. This method aided and encouraged movement, area re-use and sociability within forgotten areas whilst additionally supporting wider movement around the city. This influential study strengthened the method of play as a medium and viable focus within this research. Furthermore significant publications of Matthew Carmona (2010a, 2010b, 2014a, 2014b) from the beginning of this investigation have provided significant insight into urban design strategy and the merging of disciplines for the overall goal of well designed and governed public spaces.

It is highly important to note that play within this investigation is not concerned with the 'playground' in the traditional sense. Play will be explored in contemporary theory to understand how the play 'experience' can improve our public lives and social interactions. Play as an action is defined as, "engaging in activity for enjoyment and recreation rather than a serious or practical purpose" (Oxford Dictionary, 2010). Whereas the definition of the 'playful' act is "intended for one's own or others' amusement rather than seriously," as well

[7] See section 2.2.5 (Placemaking)

as “giving or expressing pleasure and amusement” (Oxford Dictionary, 2010). The key point recognised from these definitions is the sense of enjoyment that play enhances, but at the same time the lack of seriousness.

Huizinga (1998) discussed ‘Homo Ludens,’ (man, the player) humans are naturally playful beings, but play research has shown that adult play is extremely limited (Guitard et al, 2005; Van Leeuwen and Westwood 2008; Kanhadilok and Watts, 2014). Researchers who explore playfulness in adulthood are all are in agreement that play is not viewed as seriously in adults as it is in children by fellow researchers (Lieberman, 1977; Glynn and Webster, 1992; Guitard et al, 2005; Brown, 2008, 2010; Van Leeuwen and Westwood, 2008; Proyer, 2012, 2016; Proyer and Jehle, 2013; Shen et al, 2014; Gordon, 2014; West, Hoff and Carlsson, 2016). Furthermore Brown (2008) argues that there is a high correlation between deviant, anti-social and criminal behaviour with the lack of play in childhood and adulthood, his work continually explores why adults lack play in contemporary society. Lieberman (1977), Cohen (2002) and Babich (2014) put forward that adults may feel inhibited, thinking that they are doing something that children do. Moreover play research is becoming related to benefits of health, work and family life, in the realms of productivity (Cohen, 2002; Elkind, 2008; Whitebread, 2012 and West, Hoff and Carlsson, 2016). In agreement Banaji (2009) argues that play can facilitate divergent thinking, fostering the development of the cognitive process important to the creative act. Two vital publications published during the course of this study are, ‘play matters’ (Sicart, 2014) and ‘time to play’ (Zimna, 2014) showing a current trend in play as an important method in interaction and design, these publications also stress the notion of the play ‘experience’.

Research surrounding the methods of playful installation design displays evidence that playful interventions bring new dimensions of fun to the spatial experience as well as increasing a sense of place. Leading practitioners pioneering this genre of playful design include, Kurt Perschke; Daily Tous les Jours; Numen/For Use; Candy Chang; Plastique Fantastique and in many project examples Thomas Heatherwick. Furthermore, during the course of this study the museum of design, Atlanta, USA opened an exhibition entitled ‘Designing Playful Cities’ February, 2018, stating that “as our Cities become more and more densely populated, we must design spaces for play into them” (MODA, 2018, Para. 1). Overall the exhibition aims to present the case that all ages should engage in play, thus promoting the designer to develop creative playful spaces within the city (MODA, 2018). The timeliness of the exhibition strengthens the case for this research project within theoretical context and as a current trend in design practice.

In relation to interactive design it generally focuses on a communication between people and technology, whereas interaction design focuses on the "interplay between people and artefacts, even events" (Candy and Edmonds, 2011, pp.1). Interaction can be characterised as a reciprocal action or influence between two elements, when we come across a playful interaction we engage in an activity for enjoyment, fun or to encounter an experience. Playful interaction researchers Castle, (2005); Costello and Edmonds (2007); Lowther and Schultz, (2008); Zotes (2013); Her (2010/2014); Edmonds (2010, 2011); Candy and Edmonds (2011); Lucero and Arrasvuori (2010, 2013) argue that interactive environments can transform experiences and perceptions, focusing on the concept that interactive environments depend on users in order to fully gain the potential of a space. Castle (2005) in particular argues that interactive environments are tools for communication, but concentrates on technology as a medium. We live in a technological age, but few debate a need for designs without the addition of technology. Criticisms have been levelled at Low Tech design solutions advocating post rather than pre-digital ways forward in research (Bengtsson, 2007; Costello and Edmonds, 2007; Lucero and Arrasvuori, 2010; Her, 2010, 2014; Her and Hamlyn, 2010a, 2010b; Muller et al, 2010 and Candy and Edmonds, 2011). Conversely, Lefaivre and Doll (2007) suggest 'play as a design tool' through the introduction of interactive playgrounds. As the prominent researchers in the field of playful interactivity lean towards a technological approach this investigation aims to delve into various genres to place the playful interactive experience, into correct theoretical context.

1.4 Aims and Objectives of the Research

The research title; *'an investigation into playful interactive experiences within public space'* clearly explains the exploration goals of the project. A formal examination aims to discover the impacts of play as a 'tool' in order to assess the relationship and influence between playful design space and its users. Research development gives attention to the question of how designers can create positive experiences, promote sociability and encourage the public to connect through the implementation and examination of a playful interactive experience.

Aim

- To increase social and spatial interactions within underutilised public space through the inclusion of playful interactions.

In order to:

- Encourage spontaneity as a catalyst for interaction
- Utilise otherwise 'lost spaces'
- Allow freedom for the creativity of users
- Enhance a sense of place

Primary Objectives

- Outline problems with public space in the context of the 21st century city and contemporary society
- Recognise current successes and failures of public space
- Understand fundamental elements of play in order to guide the playful experience
- Generate frameworks for the creation and evaluation of playful interactive experiences
- Guide the creation of playful interactive experiences as tools for framework testing
- Analyse responses to the intervention of playful interactive artefacts through quantitative and qualitative methods

Secondary Objectives:

- Explore 'Interactive' and 'Interaction' design in terms of the playful experience
- Investigate how interactive playful designs can increase spatial experiences and interactions.
- Identify leading practitioners in the subject field
- Recognise trends in design research activity
- Discover gaps in research

1.5 Framework Development

A primary research objective is the creation of frameworks to aid and support designers in the formation and evaluation of playful interactive experiences. During the research development two key frameworks will be displayed; first, creational and second, for evaluation. The first framework entitled, *'constructing the playful interactive experience: a framework for increased sociability, personal creativity and experience in public space*,' is self explanatory, aiming to guide designers in experiential outcomes. The second, entitled, *'framework for interaction analysis'* developed two pivotal roles, firstly as a tool to comprehend levels of user interaction and secondly as a method aiding data collection.

(a.) Framework for Constructing the Playful Interactive Experience

The framework for 'constructing the playful interactive experience' is as a tool for increased sociability, personal creativity and experience in public space which can be moulded to suit individual designers, researchers and place-makers. It permits others to direct conventions towards any project, while at the same time allowing focus towards unique tasks within a given space.

Following literature review recommendations it is crucial to consider that this model aims at the production of the experience of the playful environment. This research demonstrates framework evolution at various stages: firstly a consensus of secondary research findings, benchmarked against existing designs, followed by research for design. Furthermore outcomes are evaluated through public opinion, professional analysis and observational summaries. The final framework is displayed in section 7.3.5.1.

(b.) Framework for Interaction Analysis

The framework for interaction analysis is a method for understanding various levels of interaction with a given design and the wider spatial experience. During the production of the framework for constructing the playful interactive experience, it became necessary to create parameters for observational analysis. Basic interaction analysis methods generated from the field of Human Computer Interaction (HCI) were utilised and built upon to create a tailor made map of interaction. The model was initially developed from literature review findings and continually developed during investigation stages. The framework for interaction analysis aims to be taken on by others and utilised as a method in the understanding of interactive experiences and follow on methods which may occur, allowing it to be a valuable technique for observational data collection. The final framework is displayed in section 7.3.5.2.

1.6 Methodology

This dissertation will use elements of design and academic research methods to fulfil aims and objectives. Personal research findings (Merry, 2009) have been utilised as a basis for this investigation, compiled data provided evidence that this is a viable academic study. When selecting an appropriate approach to research design it was important to consider the aims, objectives, participants and site selection in order to determine suitable methodological approaches. To examine the role of playful interactions within public space today, an in depth literature search, design for research, focus groups, professional interviews, questionnaires, and observational studies have been employed. The aim of utilising commonly recognised methods of quantitative and qualitative data collection within a multi method approach allows research to address multiple significant issues within one investigation. Figure 1.6 displays an overview of employed methodologies within this research and interrelations between each technique.

1.6.1 Framework Development

Documentary research within this investigation includes references from books, conference papers and attendances, journal articles, reputable internet sites and video documentation. It is important to gather existing models and principles to form a consensus for the creation of the playful interactive experience.

Previous research projects surrounding art, design and interaction have been predominantly situated within exhibition or invited situations, but to date the researcher has been unable to identify a study with the aim of creating a generic method of playful experiences and interactions within public space which directly addresses the aims and objectives of this investigation. Therefore the authors' first stage framework for constructing the playful interactive experience and interaction analysis are based on secondary research findings, merged with expert opinions to form models for onward testing.

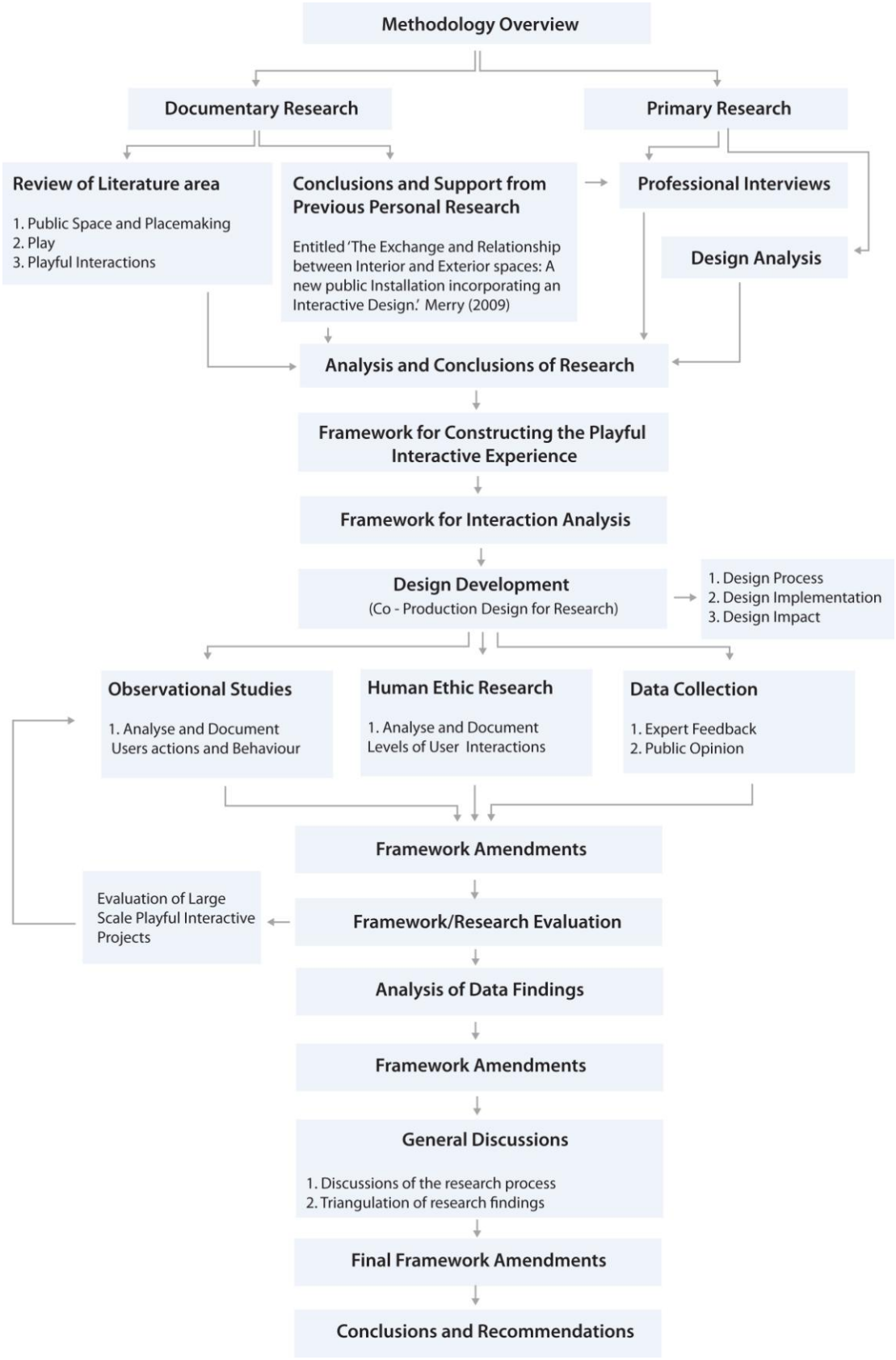


Figure 1.6: Methodology Overview

1.6.2 Framework Implementation

To test and refine frameworks a series of playful interactive designs are required. The production of design artefacts through a research for design methodology aims to test current framework suggestions. The research for design model based on the work of Scrivener (2011) is the methodological approach taken during this stage of research (Chapter 4). The recruitment of fellow designers in a project based workshop test suggested methods within a project entitled 'let's intervene'[8]. When discussing any design based research project it must be considered that personal taste and design aesthetic is always present, framework parameters must be malleable to different designers. Additionally allowing the author to be the sole designer would place a large amount of bias upon the research; as such others would be employed during the design process. Design artefacts require evaluation, in line with recognised placemaking methodologies, observational studies, and feedback from the general public will be conducted to understand the impacts of research for design, cooperating visual findings with public opinion. Furthermore, designer feedback and expert opinion triangulates these findings for framework amendments and re-design.

1.6.3 Framework Evaluation

The amended frameworks aim to serve the research hypothesis that playful interactive experiences will: increase social interaction and create a sense of place rather than a nothingness which currently exists while additionally enabling user creativity. Research findings (Frameworks) are evaluated through large playful and interactive designs implemented into the wider city realm; evaluation takes a collaborative approach. Urban Gorillas NGO[9], during their Green Urban Lab[10] (GUL) project allowed the author to test and evaluate playful theories against inflatable designs implemented into Cypriot public spaces. The author present at the design workshop was able to evaluate produced designs within

[8] 'Let's Intervene' aimed to discover if playful interactive experiences would increase social interactions, improve creativity and generate an greater sense of place. A major aim of the framework is to be utilised by others from various backgrounds and disciplines. 'Let's intervene' allowed fellow designers to use the model aiming to transform transitional and lost public spaces into places of memory and experience.

[9] Urban Gorillas are a non-profit organization set up in 2013 with aims of building community participation through creative activities in the cities, in order to enrich social sustainable development of urban life.

[10] The GULs main goal was the regeneration of public spaces in Cypriot cities aiming to raise awareness of lacking use of public space in Cyprus

the parameters of framework suggestions confirming that they were suitable for the evaluation of the playful interactive experience (see section 6.3).

To enable the study to analyse responses, impacts and change in perception, a combination of different strategies triangulates results increasing the relevance of findings in order to reach a level of academic conclusion. Evaluation methods aimed to be conducted through observational counting and mapping, focus groups, onsite questionnaires and professional interviews to assess limitations, successes and failures of the frameworks, providing the study with conclusions for framework amendment.

1.6.4 Summary

Certainly it can be hypothesised that if you place something new within public space, especially something playful in nature people will be intrigued to look. Therefore it is vital to utilise a range of data collection methods in order to support and cooperate results. Any sudden change or surge in spatial usage is required to be confirmed by a range of statistics and public opinions. Behavioural mapping, focus groups and open ended interviews will reveal results of a qualitative nature, while onsite questionnaires, a count up of users and actions performed will provide the study with statistical data to balance user and professional opinion allowing more substantial academic outcomes for less subjective conclusions.

An important factor throughout the planning of research methods was to keep in mind the subjects, the general public, as public space is deemed free and open. This allows the demographic of the research to span age, gender and culture. Taking this into consideration the need for combining various research methods was highly important. In addition, leaning towards the views of Gehl (2010) the public is key in new public space design, without their input spaces have the potential to fail.

1.7 Chapter Overview

The following section provides an overview of chapters illustrating research evolution, figure 1.7 has been included to illustrate their interrelationship to one another.

Chapter 1: Introduction sets the scene and validates reasons for the study, whilst additionally pointing out an overview of key references and related work in the interdisciplinary fields of research.

Chapter 2: Review of the Research Area examines academic literature surrounding the 'playful interactive experience' within public space. The literature review has been divided into three essential categories; public space, play and playful interactions.

Chapter 3: Research Methodology displays an overview of three important research stages taken during the study: First, Framework Development, second, Framework Implementation, third, Framework Evaluation.

Chapter 4: Framework Development outlines the production process of first stage frameworks for creation and evaluation of playful interactive experiences.

Chapter 5: Framework Implementation demonstrates research for design. The chapter displays: participant selection, site analysis, co-productive design development, implementation of playful interventions and evaluation methods, concluding in framework amendments.

Chapter 6: Framework Evaluation assesses research findings (frameworks). This chapter outlines the implementation of a large scale city design events and the results of multi-methods employed to evaluate research findings for the onward triangulation of results.

Chapter 7: General Discussions provides an overview of the study as a whole, it is divided into two sections; intra discussions and inter discussions. Intra discussion will present a summary of selected methodologies. Inter discussions comments on connections between data findings, giving insight into triangulation of results in relation to aims and objectives of the research project. This chapter concludes in final framework amendments.

Chapter 8: Conclusions and Recommendations will provide research conclusions and recommendations for further development and future directions of the investigation.

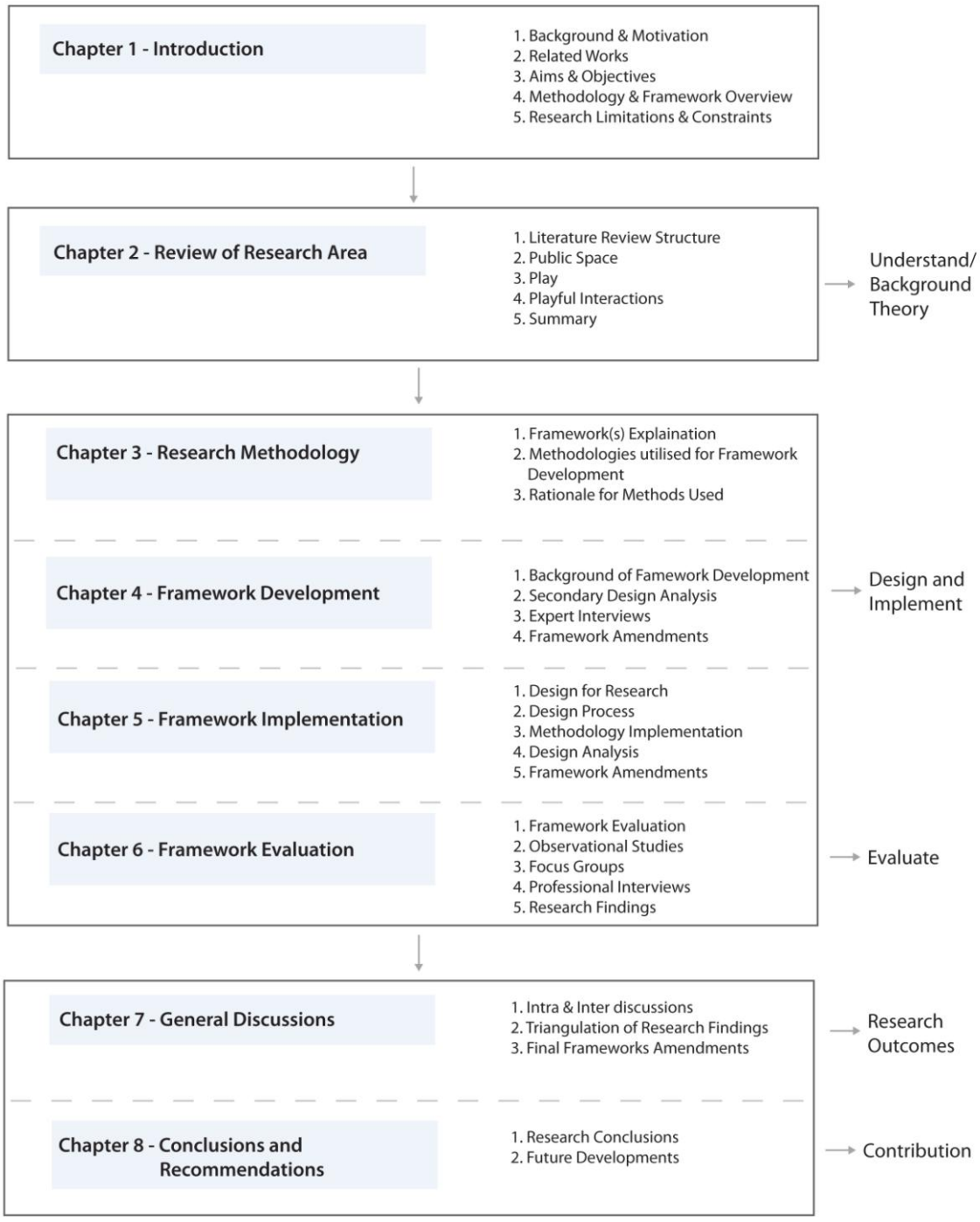


Figure 1.7: Chapter Overview

1.8 Research Limitations and Constraints

1.8.1 Definitions

To place this investigation within an academic context it is important to clarify major terms and definitions utilised within the research. Key areas are defined below:

1. Play

Play as an action defined, is "engaging in activity for enjoyment and recreation rather than a serious or practical purpose" (Oxford Dictionary, 2010). Whereas the characterisation of a 'playful' act is to be; "intended for one's own or others amusement rather than seriously," as well as "giving or expressing pleasure" (Oxford Dictionary, 2010). Official definitions of play suggest the sense of enjoyment play enhances. To relate these definitions to this research it is important to gain knowledge 'serious play' and how play has the potential to perform extremely important roles in adult lives (Brown, 2010). Within this research play will be viewed as: a malleable experience of enjoyment in order to heighten the self (Sicart, 2014).

2. Experience

To be playful suggests experience, experience is defined as: "Practical contact with and observation of facts or events," or "an event or occurrence which leaves an impression on someone" (Oxford Dictionary, 2018). In the context of this research experience has been viewed as relative: "experience will be defined as a mental journey which leaves something immaterial – a memory or a sensation. [...] Experience is started by an external stimuli – events, actions or interactions" (Sundbo, 2008, pp.4). In the case of this investigation experience promotes onward transfer from the playful act to interactions aimed at increasing sociability and spatial connections.

3. Interactive/Interaction

To interact is to "act in such a way as to have an effect on each other," and to "communicate or be involved directly" (Oxford Dictionary, 2018). This investigation has discovered that interactive design "allows audiences to engage, share, comment and interact with content" (Salmond and Ambrose, 2013, pp.10), but this is within the realms of technology. As such it is more fitting to lean upon the view that to interact with a playful experience is to discuss the "interplay between people and artefacts, even events" (Candy and Edmonds, 2011, pp.1). This investigation aims to remove the public from their technological interactions to take them back to a basic state of physical play. As such the research is best placed within the definition of interaction design rather than interactive.

4. Public Space

There are countless definitions of public space outlined by researchers and organisations. Two views have been adopted through this research encompassing the ideals of public spaces: Firstly as, "accessible to all groups, allowing freedom of action, permits inclusion and privilege of common ownership" (Carraz and Antoniou, 2015, pp.46). Secondly, "the stage upon which the drama of communal life unfolds,' thus becoming the 'grounds for play and relaxation" (Carr et al, 1993, pp.3). These definitions form the basis of the ideals of public space, this is in theory although discussions into public space within the 21st century highlights that this is not necessarily so in practice (Orum and Neal,2010).

5. The Playful Interactive Experience

This research has been approached in an interdisciplinary fashion; the dissertation strives to merge the themes of 'public space,' 'play' and 'playful interactions' to find a back to basics solution to a global problem placing this research within a contextual framework. Expert theorists, professional artists and designers have led the way in research for the three areas for consideration. As such this investigation has defined the playful interactive experience as: 'an event where one can be spontaneously involved in a temporary narrative of play permission which is non habitual in order to increase an experience of place.'

1.8.2 Limitations of Research

A major limitation of the research was the ethics of data collection due to the personal privacy of users with the observational scope of research. Observational studies have a habit of becoming subjective and the feeling which was evoked by the experience may have been altered by the users' mood, time of day, stress level or personality traits. It was crucial to find evaluation methods of comparable data to triangulate results for an academic outcome. Furthermore the aim of merging of well documented areas of research required broad research at the initial stages to place this investigation and its outcomes within academic context. Moreover due to budget and time frames there were constraints on the research in terms of further evaluation. The research has the potential to be taken forward into many other examples of public space and artefact designs to be tested and re-evaluated. Future recommendations are displayed in chapter 8.

1.9 Summary

This research has contributed:

(a.) Tools for experience creation and analysis in the form of easy to follow frameworks intended for the use of fellow academics and practitioners (see section 7.3.5).
(b.) Physical design outcomes utilising this methodology (see section 5.3).
(c.) A definition of the 'Playful interactive Experience' in order to define a genre which did not appear to fit within other currently defined fields.

The investigation concludes the playful interactive experience to be: 'an event where one can be spontaneously involved in a temporary narrative of play permission which is non habitual in order to increase an experience of place.' In order to implement and transfer this genre into the wider academic and professional sphere frameworks provide tools which can be employed by fellow designers to achieve the aim of creating a playful experience in public space. Research outcomes are aimed to be utilised in professional and academic settings, from low budget projects through to high end experiences. As academic instruments permitting students to enhance their knowledge and conceptual skills in how experience and emotions are equally as important design tools as well as the final aesthetic outcome. Within the professional setting they aim to allow users the possibility to take the suggestions

of the included frameworks and adapt the principles to multiple project briefs which require or benefit from playful and interactive experiences.

Design outcomes fitting the playful interactive experience have been produced. Designs have the potential to be modular and reused within other sites to achieve endless potentials of playful and interactive experiences. It has been questioned if playful interactive experiences have the potential to keep re-occurring with the same level of impact? How often would be too much and allow the public to become bored and how little would allow a space to be utilised to its full potential. The author also questions after the removal does altered user perception remain? Or do the playful acts slowly fade and spaces revert back to underutilised areas with no feelings or connections, thus prompting discussions into future recommendations of the investigation. A primary objective for the author and her personal ongoing investigations is the transference of this research into a handbook or toolkit for fellow designers and academics. The handbook will include easy to follow, detailed and explanatory frameworks in order to aid design creation and development without affecting personal design aesthetics. In addition a set of evaluation and support methods, in the form of charts and tables, will allow designers to assess the success or failures of any implemented or pre-existing designs. This guide intends to be utilised in both professional and academic settings. Finally the project has the potential to test the theories to other spaces, away from the public realm.

Within the following chapters, this dissertation will argue the significance of the 'playful interactive experience,' outlining current research, detailed data collection methods and a comprehensive process of a research for design process and framework evaluation stages. This study examines artefacts in terms of a social context, the question of playful interactive experiences as a viable solution to the problems of social interactions has been raised.

Conclusions of this study indicate that seemingly humorous outcomes have the potential to be enjoyed by all as a non traditional solution to 'placemaking'. The ideals of the playful interactive experience highlighted a genre which did not entirely fit existing fields. Through the definition of the 'playful interactive experience' it has placed this research within context thus creating a genre fitting the aims and objectives of this investigation. Furthermore the playful interactive experience has the potential to be taken forward as a sub category of the placemaking technique, as an activity placed genre of fun within the wider city makeup. The merging of topics aims to demonstrate that we can improve our public spaces, add creativity in an engaging and mood enhancing way, which in turn gives back spaces to communities, increases sociability and creates an experience of 'place.

Chapter 2

Review of the Research Area

2.1 Introduction

The investigation into 'playful interactive experiences' as an answer to increased social and spatial interactions within public space does not solely rely on one discipline. In order to gain a comprehensive understanding of the research area various subject matters must be considered. Figure 2.1 demonstrates the literature search structure and subsequent sections which are presented within this chapter.

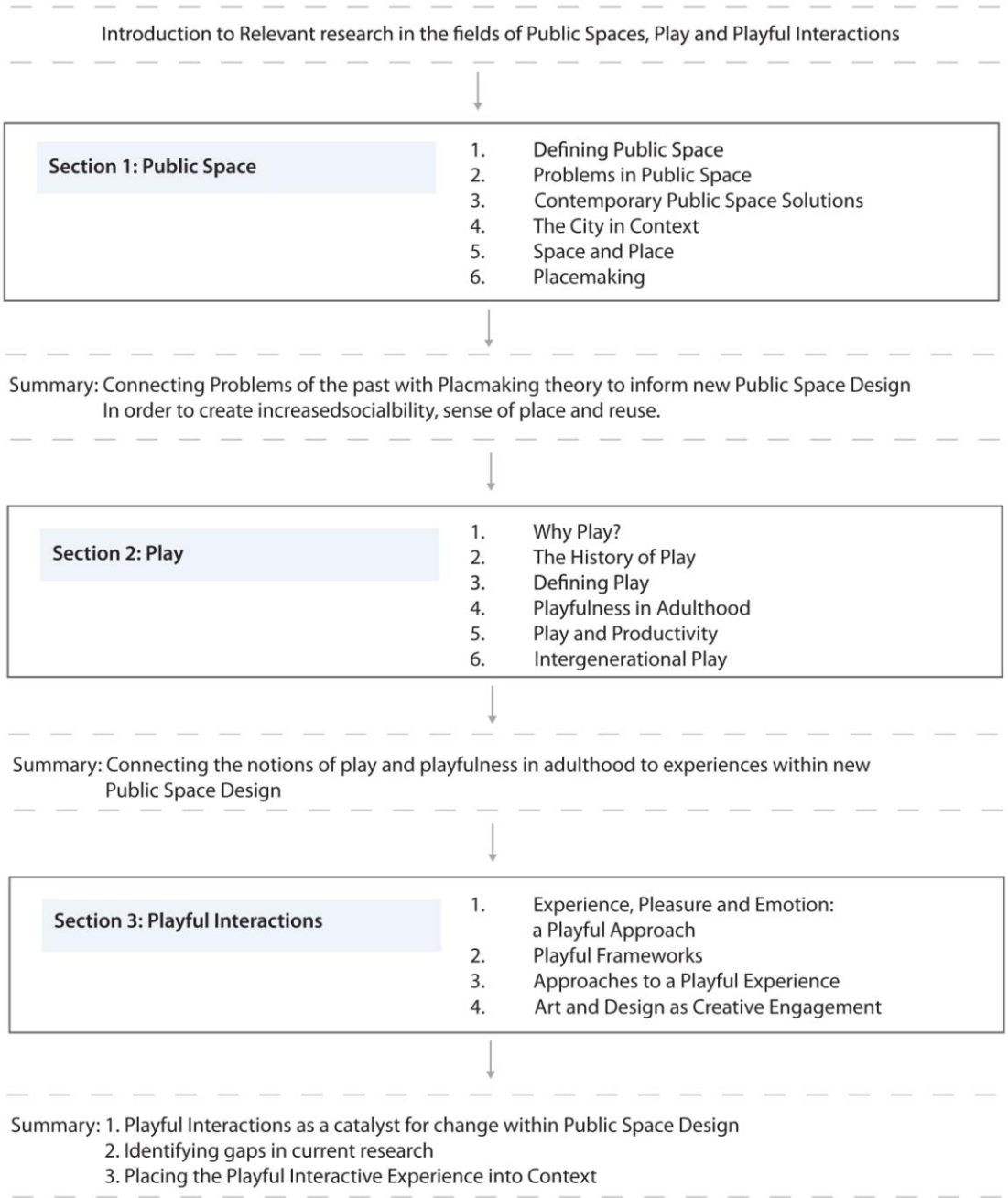


Figure 2.1 Review of the Literature Area Overview

Three main areas have been investigated: public space, play, and playful interactions. Subject matters were chosen due to the interconnections and value of past and current research outcomes.

Public Space: Gaining knowledge on issues surrounding public space and existing solutions for 'place-making' aimed to guide theoretical research and framework development. The design and use of public space is an ongoing study which origins begin as did human history, but fundamental research in to public space design for the people is noted as a mid to late 20th century exercise which began in earnest during the 1960's (Madanipour, 2003).

To create solutions, current guidelines must be examined. Placing the city in theoretical context allows analysis of existing methods to understand how creative engagement of the user can promote increased sociability and spatial usage. The review of literature is vital to develop existing theories and find gaps in current research outcomes.

Play**:** Without a fundamental understanding of play and its effectiveness in our lives, the essence of the playful experience cannot be gained. The reader may question why play has been chosen as the 'activity' within this investigation: first and foremost playfulness was outlined as a potential enhancing characteristic or sociability during previous research studies (Merry, 2009). Playful interactions were highlighted as future recommendations for further examination. Second, subsequent research into placemaking within the urban realm draws attention to participatory activities which increases use, user experience and interactions within public space (Gehl, 2010).

Playfulness is a trait which spans time and generations, making the activity suitable for all. Bramston (2009a) provides the thought that "an instinctive play approach suppresses obstacles with ease through enjoyment and emotional expression; there is no logic, just feeling along with inherent desire to discover and make" (pp.139). The review of literature aims to discover the meaning of play in adulthood and its links to a more serious outcome to benefit our cities and communities.

Playful Interactions: The knowledge of playful environments and human interaction is essential to guide research methods. Interactivity is broken into two categories, firstly interactivity with an object or art works, secondly interactivity with others and further spatial surroundings. To connect playful interactions as a method of engagement to public space design it is imperative to create a consensus of appropriate conventions towards this

area of research. The introduction of activities which cause pleasure through an interactive experience highlights an emotional approach. This is a field which will be explored from two points of view; the theoretical researcher and the practitioner.

Each area of study will be examined and concluded to support the ongoing investigation. The literature search intends to inform the investigation with leading principles and conventions in the three major subject areas, forming a consensus for design and evaluation in the construction and evaluation of the playful interactive experience for public space. Furthermore it is important to identify gaps in research to continue the study in an appropriate manner as to satisfy the aims of the investigation in the best possible practice. Moreover the review of the literature area aims to place this body of research within wider academic context.

2.2 Public Space

When discussing the constitution of public space it may be approached from the perspective of urban designers and place-makers, who aim to design for the good of public life and public sustainability, in short, "shaping places for people" (Carmona, 2014a, pp.1). Yet much criticism is levelled at urban design theorists in their quest to approach issues of public space design, noting that it is not a free standing field as it spans the realms of arts, science and social science (Carmona, 2014b). Conversely Carmona argues it is a field which draws from solid academia. With abundant publications surrounding urban design and placemaking this investigation has deemed it a significant area of research within the context of this study. The critical issue with public space today is: why do so many fail? Potentially many current plans are being rooted in the past, opting for generic town planning options which show little variety, maybe even nostalgia (Forty 2001). Public space failure drives this study from its roots, striving to create a new and innovative method for its creation.

Historically public spaces have existed as forms of public engagement, from the ancient Greek Agoras to Renaissance Piazzas. "All of this started to change in the modern period when the public squares of cities started to be used as parking lots" (Madanipour, 2003, pp.196). The main concern of public space re-design today is the need to reconnect its users, the public, within their contemporary lives and constantly evolving future. "Public places afford casual encounters in the course of a daily life that can bind people together and give their lives meaning and power" (Carr et al, 1993, pp.45), by allowing public spaces to set a stage for public life we allow freedom for all. Public spaces are important to public life; they are required for our social and psychological health thus providing retrofit for contemporary needs (Mehta, 2014). Moreover well designed public areas are not always successful, in many cases it is essential to create a stimulus for the public to actively engage with their surroundings, thus causing social interactions (Whyte 1980; Gehl, 2010; Whybrow, 2010; Carraz and Antoniou, 2015).

Madanipours' (2003) publication *'public and private spaces of the city,'* at length attempts to define public space, outlining the word 'public' as constantly combined to create other phrases such as "general public, public domain, public good, public life" (pp.109), the term public allows two meanings either as "a conceptualised society or as a state which is associated with them" (pp.107). "Kohn (2004, pp.11-12) concludes that the term public space is a cluster concept in that it has multiples and sometimes contradictory definitions"

(cited in Carmona, 2010b, pp. 168). Furthermore the meaning of public space is commonly used to describe both large and small scale areas from the footpath to large and open public parks (Mehta, 2014). Common examples of public space include parks, streets and town squares, despite the nature of these spaces it is important to keep in mind that a "space is truly public only if it can be accessed and used freely by all people" (Stevens, 2007 pp.201). Many public spaces are seen as open and accessible "to all members of the public in a society" this is in "principle though not necessarily in practice" (Orum and Neal, 2010, pp. 1). In summary and in agreement with Lownsbrough and Beunderman (2007) "public space is better understood less as a predetermined physical space, and more as an experience created by an interaction between people and place" (pp.15).

2.2.1 Problems in Public Spaces

In today's networked societies we have become accustomed to a lack of public space usage within our communities. Carmona (2010a) at length critiques and classifies the causes and solutions among fellow academics within the field of urban design. Madanipour (2003) notes that since at least the middle ages, society has been free and open to engage with friends and strangers within public space, as it was an area for various exchanges, continually putting forward that this is declining in our modern society. Within our networked society "public culture which had characterised an earlier modernism has been displaced by a pervasive withdrawal into domesticity and the private sphere" (McQuire, 2008, pp.131). McQuire bases this comment on the investigation of influential analysts, beginning with Jacobs (1961) and ending with the work of Harvey (2003). This research takes the standpoint that due to our engagements increasingly taking place within virtual space rather than the physical the problem has been multiplied. Three lengthy quotes from Trancik (1986), Madanipours (2003) summary of the work of Sennett (2000) and Mehta (2014) attempt to outline problems in public space within past decades:

> *"There are five major factors that have contributed to lost space in our cities: (1) an increased dependence on the automobile; (2) the attitude of architects of the Modern Movement toward open space; (3) zoning and land-use policies of the urban-renewal period that divided the city; (4) an unwillingness on the part of contemporary institutions—public and private—to assume responsibility for the public urban environment; and (5) an abandonment of industrial, military, or transportation sites in the inner core of the city."*
>
> (Trancik, 1986, pp.73)

> *"This decline in public life has been expressed in the urban space of our time. The streets and squares as social centres have been replaced by suburban living rooms (p.28) and the public spaces of the city are abandoned, to become only places to move through, not to be in (p.14). Everyone is under each other's surveillance, leading to a decrease of sociability and withdrawing silence as the only form of protection. (p.15)"*
>
> (Madanipour, 2003, pp.124)

> *"Even when public space is completely accessible to all, certain user groups tend to discourage others. At the least, to minimize conflict, users often separate themselves in public space over time and space. Although public space is referred to as a space of participation and amicable social behaviours, it is also a contested territory between various groups, between private and public, and between regulating authorities and the citizenry."*
>
> (Mehta, 2014, pp.54)

Jacobs (1961) early view on problems within public spaces is that the very root of the problem is that they are "abstracted out of the ordinary city and set apart rather than being rewoven [....] thus strengthening the surrounding fabric" (pp.406). This argument of segregation from the city as a whole promotes public spaces as separate entities with poor links; these isolations in turn contribute to a lack of users and interactions. Relating this opinion to the research of Projects for Public Spaces (2000), they summarise major problems as; poor access and entrances, bad seating, a lack of activities, and discouraged sociability, bringing forward multiple dimensions of failure. Furthermore, Worpole and Knox (2007) believe that not everyone is considered equal; some groups are more 'privileged' than others, due to some not fitting the expectation of appropriate behaviour. Amin (2006) suggested that cities now have clear boundaries and that for him contemporary public spaces are not what spring to mind as happy community places, moreover they symbolise isolation and segregation. Social boundaries, in public context are status, gender, sexuality, religion or age; Borden outlines these boundaries as "social and spatial ordering devices" (2006, pp.49). In light of these problems a renewed thinking within the context of contemporary society may be the answer (Carmona, 2014a). "Creativity and innovation have been the lifeblood of the cities" (Landry, 2012, pp.1), yet today many of our cities are in a transition stage between the old world and the new. In a localised setting, Worpole and Knox (2007) put forward that due to diversity and an increase in individual lifestyles our public spaces are becoming defined by social status, age, culture and taste. Merry, (2009) concluded that the number of users within public spaces had declined within recent years due to major problems such as a lack of activities and usage definition of public areas. Well

defined and designed spaces allow for experiences and definitions, if completed successfully designers may challenge these social boundaries in order to create spaces suitable for all and void of division. Prior research stated:

> *As times change so do people and the needs of the public, suggesting that whilst embarking on a re-design or on a new design of a public area careful thought and consideration must be given to how the space can be shaped in the future. [...] Taking this information into consideration, it is no longer right to assume that use of public space is decreasing, but that is a need for new thinking "in light of how people use different places (Worpole and Knox, 2007)."*
>
> (Merry, 2009, pp.26)

Francis (2003) summarised that "one of the reasons commonly used by designers for not addressing the people's needs in design is lack of time and budget," adding that "many designers lack an understanding of research advances, often leading to superficial design attention to user needs and conflicts" (pp.67). In agreement Carmona (2010b) believes there is a current failure in understanding public space. Franck and Stevens (2007) argue that it is peoples activities within public space that become 'loose,' putting forward that "accessibility, freedom of choice and physical elements [...]can appropriate and contribute to the emergence of a loose space, but they are not sufficient" (pp.2). The point of view that the design of public space today is 'not sufficient' led to the need for understanding why some projects fail. There has been a formalistic and conventional approach to urban design for many years (Carmona, 2014a) prompting a renewed thinking for spatial innovation. Carmona (2010a) puts forward that both over-management and under-management contribute to problems with public space design and ongoing use, within his paper *'contemporary public space, part two*' (2010b), he reveals that both methods contribute to problems in public space ultimately resulting in the same outcome. He additionally provides insight into a range of public space types and a new typology. In response to current problems, Neal (2010) refers to socio-spatial relationships as the most successful method in the creation of prosperous public spaces. Moreover as outlined by Murray (2005) the role of artists and designers in the development of placemaking has a controversial history and "few have managed to cross the divide into the world of urban development" (Pp.163).

Social problems are not the only issue affecting public spaces today. Neal (2010) suggests it is the political and economic agendas that are of a complex nature. Madanipour (2003), comments that in many cases public space is seen as "an asset in exchange, using it as a resource, and treating it as a commodity" (pp.112). Current western localised research discovered that users viewed privatised spaces such outdoor cafe seating or malls as their

public spaces, (Carmona, 2010; Borden, 2014), Carraz and Antoniou (2015) noted that within the public areas of Nicosia, the Cypriot capital city there were 3 times as many outdoor cafe seating's as there were public offerings. It is questionable if the lack of opportunity due to privatisation within our public spaces causes this shift towards commercial offerings (Trancik, 1986; Loukaitou-Sideris and Banerjee, 1998; Banerjee, 2001). Carmona (2010a) inserts extensive insight into the various view points of underutilised public areas of contemporary cities. His extended literature review substantially breaks down the diverse and reoccurring critiques of public space, concluding that "most, are based on a view about what public space should offer, often predicated on an idealized notion of public space as an open and inclusive stage for social interaction, political action and cultural exchange" (pp.144).

With deep rooted problems within our contemporary public spaces, how do we move forward with their redesign? Amin (2006) believes that it is highly problematic to believe that any model for good city design can last, peoples pleasures, view points and excitements change as should design, leading to a renewed thinking within the context of contemporary society.

2.2.2 Contemporary Public Space Solutions

Contemporary place-makers are now attempting to reverse the mistakes of the past by promoting substantial pedestrian areas within the city (Gehl, 1996; 2003; 2010). Whyte (1980) argued the issue of public pedestrian flow as a key attribute in flourishing cities, suggesting that to create successful flow we do not want to witness one directional movement. What is needed is a web of intersections flowing and criss-crossing through a space to conclude that all areas have been explored and utilised. Franck and Stevens (2007) state that many public spaces with no current meaning or usage encompasses unpredictable movement. Direction and speed may not be predictable, thus the design of a public space should not aim to control movement, it should promote movement to create a multi directional flow and thus explore the forgotten or lost areas of the city network. Gehl (2010), views the human dimension as the starting point in evaluating the quality of place, determining success by pedestrian flow in relation to: levels and lengths of activity and human social interaction. In response to issues of flow and movement Gehl and Gemzoe (2008) discuss some of Copenhagen's redesigned and walkable public spaces. Copenhagen today is seen as a vibrant setting, it has retreated cars within the city centre and supplied activities to citizen, promoting lively urban design.

> *"Public life has blossomed on the streets and squares of the city in a way not seen in 20 or 30 years, certainly not in the form it has today, which is not even a new version of an older urban tradition, but truly a new phenomenon. The overwhelming interest in and backing for the new public life in public spaces is certainly thought provoking."*
>
> (Gehl and Gemzoe, 2008, pp.18)

Further research, suggests that "urban design should look at the temporal beauty of urban places, as they are sensually and emotionally perceived by urban dwellers" (Wunderlich, 2014, pp.62). Wunderlich (2014) continues to discuss the temporary notion as a direct link to people's perception of the spatial experience, promoting that rather than purely concentrating on spatial output the designer should consider: place, temporality and rhythm. Gaventa (2006) examines new public spaces as temporary and transient, in order to provoke interaction and additional movement. When considering users of public space nothing is static and there will always be a flow. New public spaces should be designed to reflect this and additionally enhance future movement.

Promoting spaces which allow the public to stage their public lives is a necessity for design of the future. Francis (2003) summarises that design can never be finished putting forward the view that pubic space will continue to grow and change long after the implementation of a design. Furthermore, considering public space as a performative entity will define what happens within a place, not merely the permanent elements which you find within (Wunderlich, 2014). In agreement Amins (2006) views that, peoples pleasures change as should design.

Gaventa (2006) discusses new spaces as "mobile and those that are almost invisible to those hurrying by" (pp.159), but designers must think of the users in these spaces. Carmona and Tiesdell (2007) examine the need for temporary experiences outlining the various stages which change over time: firstly, us as the public, secondly, the activities within and third, policies which continually change. Additionally, Whybrow (2010) who's expertise lie in the notion of public art, is in full agreement of the city of the future becoming overrun by temporary and fleeting designs of an interventional and almost performance nature. Furthermore Merry (2009) concludes:

> *Time never stops there is always a continuous flow of people moving through spaces, especially public spaces. Picking up on a theory about creating places by Cresswell (2004) "Places are never finished," there is a continuous growth and movement, which suggests that there will always be some type of boundaries no matter how big or small. Designers need to challenge these boundaries and create spaces void of division.*
>
> (Merry, 2009, Pp. 18)

It is now an "exciting time for the design and creation of new public spaces, high-quality, well-designed contemporary spaces are the way forward" Gaventa (2006, pp.10). Carr et al (1993) believe that public places should be "responsive, democratic and meaningful" (pp.19), thus encouraging that new public spaces should be designed for user needs, relaxation, activities and discoveries in order to be for the use of all and create public connections. Francis (2003) describes these user needs as "those amenities and experiences that people seek enjoying in public space" (pp.4). In agreement the Worpole and Knox (2007) proposes that places are not created through aesthetics, visual output should be balanced with the engagement of society in all their diversities, requirements, aspirations and social standings. "A new entrant suggesting a possible urban future in brittle times is "smart cities," intended to bridge two realities" (Amin, 2016, pp. 777).

2.2.3 The City in Context

It is important to view public spaces as parts of the wider city context and as all round sustainable places. Spaces are not static; due to time and current trends, spaces have the ability to be continuously changing. Massey encourages that space should be considered dynamic, due to "changing social relations," discussing that "social space implies a simultaneous multiplicity of spaces: cross – cutting, inter selecting, aligning with one another, or existing in relations of paradox or antagonism" (Barker, 2008, pp.376).

When attempting to put the city and public space into context, it becomes a difficult task as "there is certainly no 'one size fits all' solution" (Dempsey and Jenks, 2005, pp. 145), every space is different. "Public space is the institutional and material common world, the in-between space that facilitates co-presence and regulates interpersonal relationships" (Madanipour, 2003, pp. 135). In terms of a sustainable world two major debates surround the issue of our city within a contemporary context, questioning if globalism or localism is the answer?

Localism suggests small developments on a smaller human scale which may be based upon the appropriate technologies suitable for this type of living rather than excess (Schumacher, 1973). Could the same be said for our public spaces, do we need to create localised communities within the public realm which could be "understood and controlled by ordinary people, rather than dependant on experts?" (Dresner, 2006, pp. 29)

On the other hand Giddens (1990) as cited by Barker (2008) argues that the world has not really globalised any more than it was 100 years before, but in fact it is our communications which have globalised, putting forward the idea of 'reflexive modernism.' Described by Dresner (2006), it is "the process when traditional society has been destroyed by the rational critique that modernity brought to bear on it and the rational critique is applied to the assumptions of modernity itself" (pp.152). As everything in our world is becoming increasingly globalised due to technology, Dresner questions if there is a possible middle ground between the ideas of globalism and localisation?

A key debate outlined by Dempsey and Jenks (2005) along with Lefavire and Doll (2007) is the concept of polycentric development or in short the PIP model. We can define polycentric as "having many centres" (Dempsey and Jenks, 2005, pp. 145). The fundamentals of the PIP model is that through the creation of a city which is linked by well designed areas, for example well designed and functional public spaces the public use and flow of the city will thus be increased. When considering polycentric development theory in relation to new

public spaces or wider city contexts, proposals should be viewed as part of a larger plan of a sustainable city.

In discussions of design contexts Dempsey and Jenks additionally suggest that "the key is to build on essential characteristics and make them relevant to today" (2005, PP.29). Here we can relate this to the ideas of Whyte (1980) in his publication of *'Small spaces in the Urban City'* he discusses the successful production of small urban spaces within a wider city context. Lefavire and Doll (2007) demonstrate not only through theory but in practice the notions of small play spaces as successful public spaces linking the city together to build an overall inclusive and enjoyable city context. Rodgers and Powers (2000) explain that in order to make a successful city it will involves more than just one project. It "involves land and environment, good governance and economic progress, public transport and social integration. Above all it requires an environment that people like" (pp.275). Finally within recent theory Carmona (2016) promotes that "change might be driven through 'top-down command' or 'bottom-up collaboration" (pp.33), through a localised approach to place making, requiring a coalition of resources. Once again theoretical debates point to the idea that we must consider the user, and their 'experience' of space within the wider city context. It is important to consider that most debates for the sustainable city are in the context of the larger city whole. Spaces do not work as single entities; they are required to work together as a network in a cohesive and productive manner to promote public engagement (Merry, 2009).

2.2.4 Space and Place

Viewing public spaces as separate entities working together in a productive and cohesive way, is this space or place? Is space a 'vacuum' or container as described by Plato, or place the entity which fits into space as described by Aristotle? (Bucsescu and Eng, 2009) As cited by Barker (2008) "Giddens (1990) characterises space and place in terms of absence and presence, where place is marked by face-to face encounters and space by the relations between absent others" (pp.376). This may be compared to the view of Tuan (1977) who suggests that places cannot be constructed without spaces. Space is the entity and that places are pauses that we encounter along our way (Tuan, 1977), furthermore arguing that it is through human perception that we get to know the world through places. Barker (2008) refers to space as an abstract idea of empty and dead space that is "filled with various concrete, specific and human places" (pp. 326), but distinguishes between space and place "on the grounds that the latter are the focus of human experience, memory desire and identity" (pp. 326). Linking his thoughts to that of Bachelards (1958), we live in an open space but it does not truly become a place in our minds until it has been given a place in our memories. Tacita and Millar (2005) are in agreement, quoting Tuan (1976), "when spaces feel thoroughly familiar to us, it has become a place [...] it would be difficult to find a major philosopher who has not attempted to answer the question 'what is place?" (pp.11) It is an issue which has been tackled by various disciplines from architecture to feminism.

Is place how we see, know and understand the world? Berger (1972) proposes it is "seeing which establishes our place in the world. We explain that world with words, but words never undo the fact we are surrounded by it" (pp.7). Harvey (1996) puts forward that "place, in whatever guise, is like space and time, a social construct" (pp. 261). If human forces have the power to create and distort space, is it possible place is not physically constructed? Furthermore Bachelard (1958) considers that we inhabit space, but place is the dreams which one makes. In short, can space be described as the physical and place as being built on memories and illusions. Ellrichshausen (2014) in agreement quotes Colin St John Wilson: "all of our awareness is grounded in forms of spatial experience, and that spatial awareness is not pure, but charged with emotional stress from our first born affinities. It is a fact the first language we ever learned long before words" (pp.5). Creswell (2004) argued that if space is socially constructed then it can also be changed. Knox (2011) continues this idea, naming designers as "arbiters, creators and manipulators of aesthetics," noting that we are part of a process "whereby changing relationships within society at large

become expressed in the superstructure of ideas, institutions and objects" (pp.6). Moreover, Canter (1977) states that "designers are officially, the modifiers and creators of physical forms [...] their task is to manipulate the physical attributes in such a way as to draw you upon, or create, the appropriate context for specifiable activities and conceptions" (pp.161/163). Furthermore, Creswell (2004) concludes that "place therefore is a pre-scientific fact of life, based on the way we experience the world" (pp. 23). Consequently, designers can manipulate and force us to see elements which may not be there. The clearest explanation of this concept is to relate back to Berger's 'ways of seeing' (1972) and the analysis of the surrealist painter Magritte's work, *'The Key of Dreams'* (Figure 2.2). When we are shown something it is easy to access our subconscious and make us believe something which is not true.

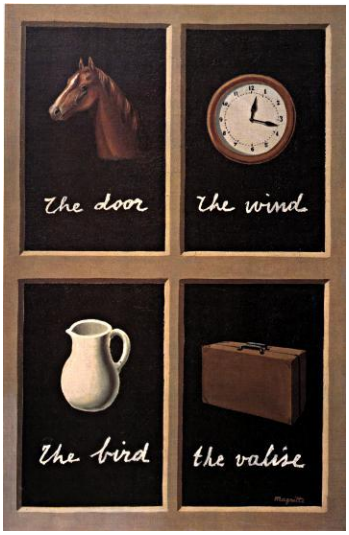


Figure 2.2: 'The Key of Dreams,' Rene Magritte, 1930.

Many cities have a feeling of dislocation, (Knox, 2011) "sense of place is always socially constructed and a fundamental element in to the social construction of place is the existential imperative for the people to define themselves in relation to the material world" (pp.173). Knox (2011) continues to suggest that "peoples creation of space can also provide them with roots" (pp.174). Furthermore Madanipour (2003) points out the reality of ever changing public space:

> *"being present in the same place as others, shared experience of the world becomes possible and a link is made with previous generations who experienced (of future generations who might experience) the same physical reality. This connecting role that bridges time endows public space with permanence."*
>
> (pp.135)

In addition Madanipour (2003) relates public life as a 'stage' for performance, noting that the flexibility of public space allows for a variety of performances, rather like a theatre. Furthermore neutrality is extremely important, that public space becomes "a neutral container that can be adapted" (pp. 126), taking us back to the views of the ancient Greek philosophers, and possibly bypassing the views of Lefebvre (1991). In relation to experience we can link these theories to Pine and Gilmore (1999) experience is constructed on the 'stage' and the planning happens backstage. Rather like the view of Madanipour (2003) the public would only encounter the 'experience' upon this stage not its production, and as such would encompass a surprise encounter, or ta-da moment (Grimaldi, 2009) in order to heighten emotions, pleasure and in turn a sense of place. This view counteracts the notion of participatory design with the public, this approach therefore excludes the public from the 'making' process but allows them to be viewers and participants of the final 'occurrence,' thus the public produce varying levels of experience based on their methods of interaction. In line with Waltz (2010) this allows the framework for public participation and engagement, permitting the public to produce their experience.

2.2.5 Placemaking

Place-makers aim to create environments inclusive for all as well as much more, in line with place-maker goals; urban design theorists merge aesthetics with theory for the overall goal of solving contemporary social and spatial issues (Carmona, 2014a). Canter (1977) describes the creation of a sense of place as being "the result of relationships between actions, conceptions and physical attributes. It follows that we have not fully identified the place until we know what behaviour is associated within" (pp.159). Carr et al, (1993) argue that successful "public life also offers relief from the stresses of work, providing opportunities for relaxation, entertainment and social contact" (pp.45). In an interview with Jane Jacobs in her DVD 'Urban Wisdom (2003) she is asked 'how do you find the best way to design a city?' answering 'you go straight to the source, the streets and to the people.' Jacobs (1916-2006) along with Whyte (1917-1999) are considered among the pioneers of placemaking, until the 1960's her visions of the city web and interweaving city life was an afterthought in most planners' minds. Through her research Jacobs advocates how people react and act with each other makes all the difference to how they interact with the objects placed within a space. Furthermore a quotation at the forefront of the placemaking strategy is "what attracts people most, it would appear is other people" (Whyte, 1980, pp.19). Within

current research a Scandinavian saying is “people come where people are” (Gehl, 2010, pp.65), he also adds by saying “one plus one quickly becomes more that 3” (pp.65). In relationship to the view of Jacobs and Whyte we can suggest that an inclusion of catalysts (objects) for social interaction have the potential to attract the public to socially and spatially engage. Catalysts aim to attract the public, thus drawing a crowd and creating an area of increased engagement and a sense of place is established. In later theory, Oldenburg (1991) brings into play the idea that cities need a ‘third place,’ our homes and workplaces are not enough, third social spaces allow us to have more creative and social interactions. In many cases this ‘third place’ has been viewed as a social club, bar or restaurant, the dilemma with the consideration of these spaces as third dimensions is the commercial aspect. The community should be permitted to visit a free and open space to embrace and enjoy, not segregating the public into commercial spaces due to social status, culture, wealth or gender. Engwight et al (1999) advocate cooperation between participants and planners, supporting methods of changing our streets using creative and humorous techniques. Their aim is to bring people back to the streets and even the pavements which occupy the fronts of their houses, thus reminding us of past times when communities would interact in a street experience. In agreement Worpole (2000) discusses social construction, suggesting that people who are in it are the ones who create it. It is clear to argue that the encouragement of participants in the continued use and in many cases during the design process is a view shared by most place-makers. Gehl (2010), clearly states that “the human dimension is overlooked” (pp.3), in so many of our public space designs today, suggesting that a greater effort is needed. A bottom up approach is seen as the optimal approach for participatory design. Gehl (2010) outlines past methods which were to shape the City first and then allow it to shape us promoting the idea of reversing the notion that urban planners have been so stuck to in the past, suggesting that we think of the people, re-shape the city and then allow the city to re-shape us in a new or in a better way. Lownsbrough and Beunderman (2007) suggest that spaces should: “a. be flexible, b. create settings for ‘trusted’ spaces. c. foster positive interactions. d. embrace creativity and innovation” (pp. 34).

“Good public space creates a platform for engagement and discussion, for planned and spontaneous encounters and for learning diverse attitudes and beliefs” (Mehta, 2014, pp.56). Projects for Public Spaces (PPS, 2000) founded in order to expand upon the work of William Whyte (1917-1999) and Jane Jacobs (1916-2006), continue to put together and circulate numerous research findings surrounding ‘placemaking’ strategies. A notable

research method seen in figure 2.3 is the 'place diagram.' "The Place Diagram is a tool PPS has developed to help communities evaluate places" (PPS, 2000, pp.17), representing key attributes, intangible qualities, and measurable data. Additional frameworks surrounding the construction of public space are Gehls five dimensions of public space as explored by Mehta (2014), 'play as a design tool' (Lefavire and Doll, 2007), and the 'power of 10,' (PPS, 2009). Furthermore, he Gehl Institute (2018) provides an abundance of tool kits, highlighted as a 'toolbox' for place-makers providing guidelines and case studies. The promotion of tool kits is a significant output for those in the field of placemaking and urban design, thus transferring knowledge gained through field research benchmarked against theoretical conclusions to the wider design community who may not be heavily involved in academia.

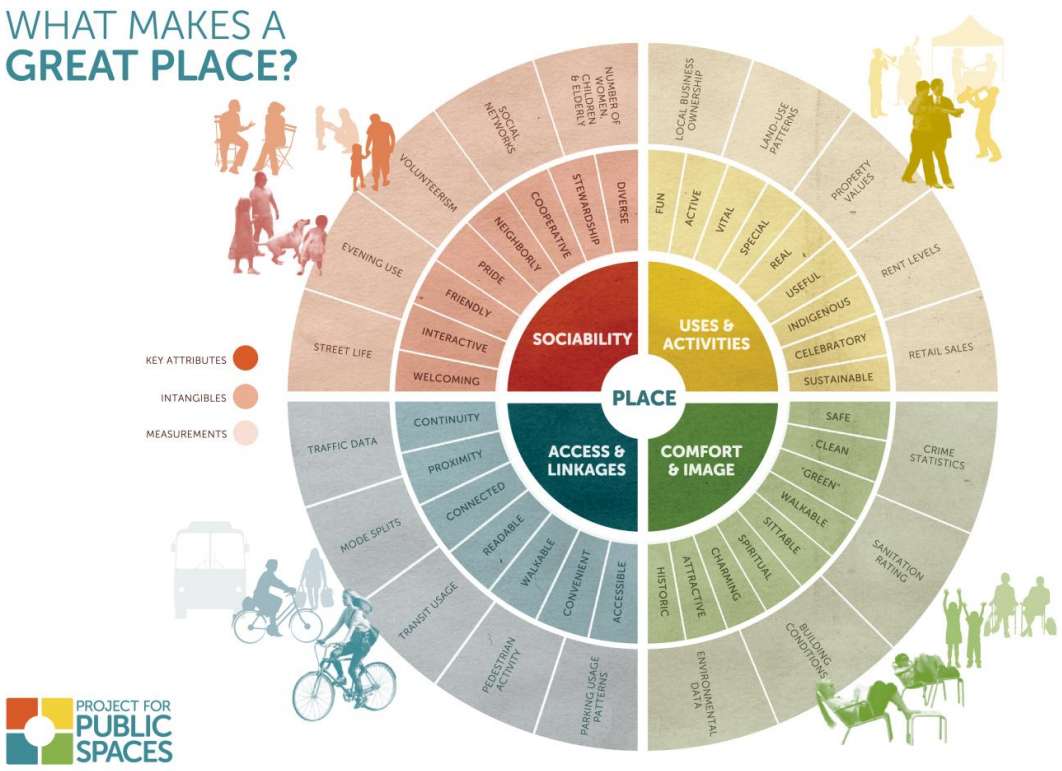


Figure 2.3: Place Diagram

Carmona (2014a) separates place-makers into categories of A and B, stating that group A are the foundation works of Lynch (1960), Jacobs (1961), Whyte (1980), and Ghel (1987) along with others lie in the realms of social sciences, whereas group B, contemporary theorists promote practice based research through design implementation and evaluation. The relationship between the social sciences and design practitioner can lead to the opinions of Harvey (1996) "place, in whatever guise, is like space and time, a social construct"

(Pp.261). If place is socially constructed then we must transform our spaces, generate positive experiences and promote sociability within our communities, only then we can regain a sense of place to benefit ourselves and future generations. Miles (1997) puts forward that "the streets offer casual encounters and possibilities for engagements" (Pp.21). Carr et al (1993, pp.187-209) suggest that we have available spaces, such as parks in dense neighbourhoods, but conversely there are minimal users within the sites, due to the lack of activities and invitations to these spaces. Ghel (1987) splits outdoor activities into three categories: necessary, optional and social. The social experience varies dependant on location, but Ghel puts forward that its promotion is not in quality, content or intensity, it is to simply provide the means for interaction at various levels. Gehls (2010) promotion of the *'Lively City Concept'* encourages engagement of the public directly with society.

> *"The lively city also needs varied and complex city life; where recreational and social activities are mixed with room for necessary pedestrian traffic as well as the opportunity to participate in urban life."*
>
> (Gehl, 2010, pp.63)

Gehl discusses the lively city, but how can designers create this perception. Could it be through Whytes theory of Triangulation? (1980) In short triangulation is two men on a street need a stimulus to interact. Once this stimulus exists they may create interaction. Both Stevens (2007) and Whybrow (2010) advocate triangulation as a conversation starter as a concept deeply rooted in the outcomes of the implementation of playful 'art' or 'design' or method for creative engagement.

2.2.6 Summary

The overall theme running through the review of literature into public space and placemaking is the notion of accessibility and activities to promote public engagement, furthermore the sense of timeliness and ephemeral nature of our contemporary society is a trait to be embraced in today's design. "Through new centres of attraction, movement and information, the public is provided with places for exchange, cohesion and communication" (Merry, 2012, pp.259).

Moreover Mehta (2014), recommends that within research projects investigators must provide a definition of public space within their area of research due to the wide scope of public space definitions. This research will concentrate on underutilised areas of the public realm, focusing on spaces which have the potential to be accessible and currently hold positive attributes for public engagement but have simply faded into the background being used merely as transitional elements of the city whole.

To establish the meaning of Public Space within this body of research two views have been adopted stating that public space is:

- "Accessible to all groups, allows freedom of action, permits inclusion and privilege of common ownership" (Carraz and Antoniou, 2015. pp.46).
- "The stage upon which the drama of communal life unfolds,' thus becoming the 'grounds for play and relaxation" (Carr et al, 1993, pp.3).

It may be concluded that the designer must be concerned with both design aesthetic and public need. Not merely borrowing from the view of Carr et al (1993) that public spaces need to meet the needs of the people, but also advocating the views of consulting the people for their public spaces. The Urban design process is an accumulation of: history, experience and practice. As put forward by Carmona (2014b) the design process actually begins long before a design proposal. The public themselves are the key in creating places of meaning rather than such emptiness which currently encompasses so many public areas. An overall summary suggests that "spaces which promote an overall good quality environment can provide a 'sense of place' rather than the emptiness that original sites currently provide" (Merry, 2012, pp.259). Many urban spaces act as transient elements from point a, to point b. What if we encountered an unexpected spatial experience along our way which created a

point c? This point c would then change our flow and movement allowing the user to explore essentially their public space.

Furthermore it is not merely the designed space but the social interactions and reactions which can encourage increased engagement with the entire spatial experience. The designer must give the public the ‘tool’ or ‘stage’ to create and be creative within their free and open public spaces in order to enhance active participation.

2.3 Play

Play is a major part of human and animal development, numerous theorists have drawn conclusions into reasons for play. The majority of research gives attention to play within child development, placing importance on the development of physical, social and psychological skills. From the point of view of this investigatory research, the literature search focuses on playfulness in adulthood where research is limited. 'Serious play' is a common term occurring in the discussion of adult play, meaning play is performed in adults for a serious outcome, be it a task, to improve creativity or even induce pleasure (Brown 2008, 2010). This review of literature aims to strengthen the argument that play in adulthood is an important phenomenon, which has the potential to be utilised to increase experiences of the spatial setting, thus having numerous positive follow on effects.

2.3.1 Why Play?

A fundamental element of 'placemaking' is to employ fun uses and activities. Referring to Lefaivre and Dolls findings displayed in, '*ground up city: play as a design tool*' (2007) they attempt to lift the notions of the place of play, which have "sunk in the opinion of architects and urbanists" in order to show "how beneficial the relation between them can be, particularly in the creation of emergent public space" (2007, pp.36). 'Placemaking' in relation to fun cannot be fully utilised without a comprehensive understanding of the notions of play, this has been made evident in the study of; 'the exchange and relationship between interior and exterior spaces: a new public installation incorporating an interactive design' (Merry, 2009), where research strived to encourage play in the form of a subconscious action. The study concluded that further in depth research, testing and analysis was required for concrete support of the studys hypothesis. 'Play as a design tool' has in recent theory been touched upon by Lefervre and Doll (2007), Whybrow (2010) and Waltz (2010).

"Play within design is an important concept as it is through play that social barriers are brought down, making it possible to engage, understand and develop without inhibitions" (Bramston, 2009a, pp.138). Lawson (2001) suggests that "most of us hate being bored, and want some form of amusement or entertainment. We might see this as a need for stimulation, and we demand that space around us should provide this" (pp.18).

Furthermore Bramston (2009a) notes that through the play experience "there is no logic, just feeling along with inherent desire to discover and make" (pp.138).

The intension of this exploration is to link "possible relationship between play, imagination and creativity [...] sense of humour, manifest joy and spontaneity" (Liberman, 1977, pp.107), as catalysts for increased spatial and social interactions within the urban realm, thus placing it as a method of temporary active engagement as promoted by contemporary urban theorists (Amin, 2006; Carmona and Tiesdell, 2007; Gehl, 2010; Whybrow, 2010; Wunderlich, 2014).

2.3.2 History of Play

> *"Plato is often cited as the first to have recognized the practical value of play from his prescription in the laws to distribute apples among boys to help them learn arithmetic, and give real miniature tools to these three year old boys who were later to become builders. Aristotle too thought that children should be encouraged to play at what they were to do seriously as adults."*
>
> (Millar, 1968, pp.13)

The history of play is a fruitful subject, its beginnings date back to the classic Greek theorists Plato and Aristotle. The history of game playing is strongly related to that of culture, and personal development, Plato (427 – 347 BC) quoted by the National Institute for Play (2000). Furthermore the National Institute for Play (2010) observe that you can discover more about a person in an hour of play than in a year of conversation. During an interview in *'The Promise of Play'* (2000) Sutton-Smith outlines that play has existed since dinosaurs but has progressed as intelligence has advanced, it is connected to culture and evolution, mirroring the 'creatures among species' view of Darwin (1859). Huizinga's concept of 'Homo Ludens' or 'man the player' (1938) argues that play can be viewed from a cultural point of view, in agreement with theories of Darwinism, play is older than culture, but highlights its significant role or function. Whitebread (2012) leaning on the views of Plato (427 – 347 BC) and Aristotle (384 – 322 BC), puts forward the importance of play within classical cultures, where he emphasises the "value of play and physical activities for the overall development of the child" (pp.9). Millar (1968) outlines four of the classic states of play in a well documented and comprehensive fashion: a. Surplus Energy, a method to 'blow off steam'. b. Recapitulation Theory – Comparing child play behaviour to that of animals, in short, games that children play mirror their primitive ancestors. c. Practice of skills - play practices and

perfects skills needed for adult life. d. Recreation Theory. Play as a way to recuperate from hard work.

Play is an undoubted universal experience and subject of academic enquiry across various fields, especially within the social sciences (Kolb and Kolb, 2010). Further views on play are: Erikson, (1950/1963), Psychosocial Development; Caillois, (1961), Sociology derived from Play; Piaget, (1962), Cognitive Development; Freud, (1965), Play Therapy; Vygotsky, (1966), Social Development Theory; Winnicott, (1971), Psychodynamic Theory; Gadamer, (1992), Play as 'Truth and Method,' the "manifestation of being in the world"; Sutton Smith, (1997), The ambiguity of play/Seven Rhetorics of play. In more recent theory play has been related to productivity (Cohen, 2002; Brown, 2008, 2010) as well as to the arts and social engagement (Sicart, 2014 and Zinma, 2014).

In contemporary theory, Zinma (2014) discusses two significant categories of play in relation to art theory, the rational: communicative, subjective and controllable and the pre-rational: violent, excessive and sensual. Pre-rational play in line with Huzingas 'magic circle' (1938) brings about the idea of becoming one with play. To quote Zinma (2014): "play is a manifestation of being in the world and does not isolate its participants from reality and each other, but rather binds them together in a collective experience" (pp.50). She puts forward that a pre-rational understanding is a "heightened experience, rather than the picture framed and hung on the wall" (pp.54), as in rational views of play. In a similar approach Kolb and Kolb (2010) see play as serious/epistemic/goal ended and non-serious/ludic as the experience or developmental process. Citing Gadmer (1992) they put forward that through a ludic notion "players join the game through sheer desire" (pp. 30). Therefore if this research takes the viewpoint of play as the ludic, non serious and pre rational approach can it induce serious outcomes? Conversely approaching play as a rational goal orientated exercise, will it encourage the experience required to increase user interaction and sociability in public space? The following sections aim to delve further into playfulness and the play experience to support the answer to these questions.

2.3.3 Defining Play

Play could be defined as “a highly complex social and cultural phenomena” (Marsh and Wood, 2014). Described by Brown (2010) play is a voluntary act which allows freedom from time whilst additionally holding improvisational potential. In terms of the spatial setting play is to “be in the world. Playing is a form of understanding what surrounds us and who we are, a way of engaging with others” (Sicart, 2014, pp. 1). These contemporary views strive to clarify the essence of play and playfulness, but fail to give a concrete definition. Historical and contemporary philosophers and researchers indicate that play is a multifaceted and complex act defined by the ‘players,’ their backgrounds, contexts and the circumstance in which the ‘game’ is being conducted. (Sicart, 2014; Zinma 2014).

Play as an action defined, is “engaging in activity for enjoyment and recreation rather than a serious or practical purpose” (Oxford English Dictionary, 2010). Whereas the characterisation of a ‘playful’ act is to be; “intended for one’s own or others amusement rather than seriously,’ as well as ‘giving or expressing pleasure” (Oxford English Dictionary, 2010). Dictionary definitions are broad starting points for any speculative definition, the overall focus documented from the official definitions of play is the sense of enjoyment that play enhances. It is additionally observed that the whimsical notion of play is clear, demonstrating a lack of seriousness for the subject.

The concept of play has multiple and complex dimensions, Brown (2010) has “long resisted giving an absolute definition of play because it is so varied” (pp.15). An interesting perspective pointed out by Cohen (2002) is that play has been delved into so much that the definitions are becoming dulled. There are numerous angles to which play can be approached, but research suggests that the idea of play within contemporary society has been diminished to a child like act, many not taking the issues of play seriously furthermore as apparently purposeless or possibly engaged in for its own sake (Brown, 2010).

Huizinga (1938) argued that play allows us to escape our world putting forward that play actually takes place within a temporary or separate ‘space,’ persuading us that when we are playing we are transformed and removed from our everyday into a parallel reality. In agreement Marsh and Wood see play as a “social and cultural activity, it allows us to play with our world, while at the same time escaping our world” (2014). It is questionable if this experience through the means of creating a parallel world could be considered the element of ‘place’ within the spaces we physically inhabit.

Brown (2010) explains that there is no universal answer, discussing that it can only be defined when two people are experiencing the same act, and even then they may be experiencing the same act differently. Major theorists, Sutton-Smith (1997), Cohen (2002) and Brown (2008, 2010) are all in agreement that we cannot simply define play. *'The promise of play'* (2000) suggests there is no solid explanation "but we know when we are doing it, maybe play is a state of mind? Anything that is fun is play." Our daily lives, whether we admit it or not are full of actions we do not want to do. A definition by Webber in (Marsh and Wood, 2014) is that play is not being forced to do things; we play because we enjoy play. In continuation Wooly (Marsh and Wood, 2014) expresses her point of view that play is freely chosen; play is creative and may also mean different things to different people.

It is questionable if play is a spirit that encourages us to explore and experiment? If play was absent would we still facilitate these acts, especially if it is a "social activity and a culturally embedded practice?" (Marsh and Wood, 2014) Conversely how can we suggest the presence or absence of play if so many experts express the notion that play cannot be defined. Sicart (2014) outlines an understanding of play within various disciplines stating that play should and can take different approaches depending on the point of view of subgroups. His writings lead to the opinion that play is malleable, and can be moulded to fit the medium of any designer in order to heighten the self.

Within this research 'play' should not be mistaken with that of the 'game.' Poplin (2012) encourages participation and interaction through the play of online games where the game is to have rules, a winner and in many cases a prize or title. Conversely the playful act is one of enjoyment that can be explored through a game, but does not have to endure such strict rules. In many cases we may participate in games, that are not fun and we do not feel as if we are playing so this can be said vice versa, thus play can be experienced in the absence of a game. Furthermore, Poplin (2012) advocates 'serious games,' an example of this is the Volkswagen fun theory (2009) who promoted 'serious play' suggesting that "fun is the easiest way to change people's behaviour for the better" (para.1), moreover outlining a series of participatory play installations with serious outcomes.

Within the definition of play Sutton-Smith (1997) leaves an addition not to be discounted, play is not easy to classify, and the ambiguity of play ought to be recognised. Ambiguity meaning uncertainness should be embraced and explored rather than defined.

2.3.4 Playfulness in adulthood

Taking into account varied definitions and viewpoints of play, is it just fun, or can it be serious as well? Play as an agent in child development is clearly a highly explored, analysed and documented body of research. A limitation of this research is the resources surrounding the development of playfulness in adulthood, furthermore where there is a small range of publications these are generally directed towards work and productivity through play (Guitard et al, 2005; Van Leeuwen and Westwood 2008; Kanhadilok and Watts, 2014). Cohen admits that "psychoanalysists have not really come to terms with the games that adults play" (2002, pp.168). Furthermore Proyers multiple publications (2012, 2013, 2016) highlight that much more research is needed within the field.

> *"According to the PsychINFO database, in the last 10 years more than 3000 psychological research articles written in English focused on child play, yet only 40 addressed play in adults or the elderly and this was mainly in therapeutic contexts."*
>
> (Van Leeuwen and Westwood, 2008, pp.153)

Cohen's (2002) observance of serious play begins with the opinions of Freud (1965) who stated the clear development from play to work. Arguably Cohen distinguishes that "play cannot just be; it has to have a purpose otherwise biology would not have permitted its evolution" (2002, pp.3). In agreement, Brown (2010), views play as performing extremely important roles in adult lives. His particular studies concentrate on the creation of social bonds that connect us to others, advocating the notions that play is definitely 'more than just fun.' Brown (2010) summarises that our culture has dramatically lost a serious element of our human nature, which is play. One should not assume that play no longer exists in contemporary life, but due to modern approaches and lifestyles the traditional nature of play is becoming lost.

Guitard et al (2005) through the citation of Solnit (1998) explain that adults maintain a playful attitude and can put it into imagination but conversely they abandon playful acts due to the critical nature of adulthood. Consequently to what effect does this have on adult development? The National institute for play (2010) notes play deprivation in contemporary society, so called 'couch potatoes' forces the brain to shrink and not to develop at the normal rate. In short life without play causes depression. The factor of play deprivation is seen as a primary element of negative behaviour, Brown's (2008) studies examine the correlation between individuals who do not have, or lack play in their daily lives resulting in

negative effects. The documentary *'the promise of play'* (2000) discusses play as an agent which "taps into our deepest emotions and it is when we are playing that we feel most alive". In line with Brown (2008, 2010) Whitebread (2012) highlights that play deprivation results in adults with less developed emotions. This allows us to appreciate how the element of play within our daily lives becomes significant as adults and not merely in child development; we never stop developing and changing.

Cohen (2002) observes that many see play "as something children do and adults don't. Then, while children are presumed to think that play is good fun, wiser adults (especially psychologists) know there's more to it than that" (pp.2). Cohen reviewed the research of Piaget who argued that "as children get older, they reject the sillier games of childhood in favour of more realistic pursuits" (pp.2). One should not assume that play is purely about fantasy, as the national institute for play (2000) explains we are designed for play throughout our whole lives. It is a relevant question to ask why does there seem to be such an abrupt stop in research when it comes to adults, maybe this suggests that it is culture which forces us to lose the essence of play.

Adulthood suggests rules that we are all too familiar with; Dattner (1974) proposed that "play – that of adults and that of children –takes place within a framework of rules, often very intricate ones" (pp.13). Shen et al (2014) has broken adult play into 3 categories: a. self entertained, b. goal attainment, c. leisure boredom, where adult games are usually controlled by the act of rules. Linking back to Cohen (2002) along with the current view of Babich (2014) social conformity of adult play is a deterrent in contemporary culture; it is highly probable that adults do feel an intimidation to play children's games, resulting in their choice of games becoming socially acceptable. In agreement Liebermann (1977) proposed that play is something less acceptable for adults. On the other hand as seen by Dattner (1974) adult play could take the form of recreation such as a hobby, Dattner draws parallels between the basic notions of the essence of play and the creative act. The difference between adults and children is the level of maturity in the choice of 'game' to play. Conversely Sutton Smith and Byrne (1984) believe that it is our attitudes to play which need to be reconsidered stating that "we need to think about child-adult play as continuous" (pp.180).Cohen similarly argued that "adults may feel inhibited by the thought that they are doing something that only children do and, so bring into their 'play' many of the stresses of real life. Furthermore many responses to play are that "other people are watching and judging what we do" (Henricks, 2015, pp.45). Perhaps we need to convince ourselves that it "is more than possible to play soft, to play playfully, or, even to work playfully" (Cohen,

2002, pp.186). Lieberman, (1977) agrees that adults can be scared to be spontaneous, as they may do the wrong or socially unexpected thing. When implemented correctly and appropriately for adults, Kanhadilok and Watts (2014), suggest that participants will encompass the potential to: explore, investigate, manage, test and be artistic and creative. In short learning through the play process should not stop at adulthood; adults should continue to learn through play throughout their lives.

An answer may be that in adult play we have developed mature characteristics through our childhood experiences. When taking into consideration the viewpoint of Lieberman (1977), adult "qualities such as spontaneity, sense of humour and joy would characterise the very play spirit that Huizinga regards as civilizing and thus part of adult behaviour" (pp.76). These mature qualities displayed through adulthood manipulate the ideals of play, thus separating this from the play of children. Children play to develop where as an already developed person will take these skills and continue them with new games. Lieberman notes this by stating that "there is now a possible reversal in the trend; the elements of spontaneity, no restrictiveness, and fun are being culled from the child's activity and also seen as essential ingredients in the growing leisure activities of adults in our own time" (1977, pp.14). Growing contemporary theorists, (Guitard et al, 2005; Proyer, 2012, 2016; Proyer and Jehle, 2013; Shen et al, 2014; Gordon, 2014; West, Hoff and Carlsson, 2016) refer to the influential study of Glynn and Webster (1992) who uncover adult playfulness traits to be similar in adults as in childhood, suggesting that playfulness remains despite age (Gordon, 2014). Baptiste (1995) encouraged adults to play, a reoccurring statement within her work is adults who engage in child play or child like play are to benefit the development of younger generations in understanding and interacting, agreeing that play allows self expression, is a healer and reduces stress through fun.

Conversely adult play is not always viewed as 'fun and games' Zinma (2014) points out that "play is what we decide it to be, to me this can have a dark meaning" (pp.5). For example, the act of murder being play for some but it is clearly not an acceptable method of play. Furthermore there may be a sense of shame in adult play, labelling it as 'bad' or 'stupid' (Prager, 2013). Sicart (2014) also notes the dangerous or adult themed notions of play. Zinma (2014) concluded that there needs to be a better understanding of the whimsical notions of play within adulthood for a productive output.

2.3.5 Play and Productivity

Play is very often contrasted with work; additionally it is seen as lacking serious purpose (Whitebread, 2012). This is a view shared by others in the field; especially Brown (2010). Cohn (2013) sees life as having a way of taking play away from us, whereas the National Institute for Play (2010) considers that play is "woven into the fabric of social practices, we will dramatically transform our personal health, our relationships, the education we provide our children and the capacity of our corporations to innovate." Norman (2004) proposes that "the surprise is that we now have evidence that aesthetically pleasing objects enable you to work better" (pp.10). Norman uses examples like when you wash the car it somehow makes us drive better, or when we have a shower and are fresh we feel better about ourselves, linking play not only to increased experiences but also to enhanced productivity.

Large scale corporations, such as Google, incorporated play into their corporate culture, various studies have shown that there is a relationship between employers enjoying what they do and the quality of work produced (Elkind, 2008), thus advocating how we should bring play back into our everyday. West, Hoff and Carlsson (2016) encouraged that they found the play environment has the potential to bring about a "creative and productive climate" (pp.86), yet there was much more investigation to be done. Elkind (2008) brings forward a point of view prompting that uniting adults in play will encourage a more productive and playful culture for generations to come. Cohen (2002) additionally displays that even "conservative organisations such as the British Medical association run role-playing groups for doctors" (pp.12). Despite this growing trend for companies who have recognised play as a form of productivity, where is this productivity for the everyday public?

In her article let's all go out and play, Abrams (2000) outlined that play was "just beginning to step into the limelight" (pp.36). At the turn of the millennium, it was beginning to emerge as general consensuses that play equalled a better life and a more productive worker. Chenecey (2005) in his article *'grow up its time to play'* connects play and seriousness as a need in adult life questioning, are we the "player or the worker?" (pp.43). His advocating for play within the work setting becomes linked to brands such as *'Apple'* and the newly re-branded *'Virgin Ventures'*, where play comes through as a characteristic of the brand drawing the consumer. Within this argument, 'play and productivity' of the individual may in fact have the potential to go full circle. Play is definitely in this sense more than just fun, Chenecy (2005) expects this to be a debate which will become louder and louder. We

can conclude from these findings that play as a subject in design is merely a growing phenomenon. Gray (2014) suggests that the lack of play display discourages people from playing within contemporary culture. If we choose our social setting wisely, play and games could be re-introduced.

2.3.6 Intergenerational Play

Qualities that make play different from other activities seem to unite play across and within generations (Marsh and Wood, 2014). When discussing play in adults one approach, theoretically defined is intergenerational play. This view point suggests that the act of play should not be lost; it is a concept which remains an answer to intergenerational interactions for generations both now and to come. In his book, *'games that people play,'* Berne (1964) suggested that "games are passed on from generation to generation" (pp.171). He proposes that the analysis of play and games is rooted in a 'matrix' which goes back generations, strengthening the link between adult and child play in an 'intergenerational' context. Cohen references Berne further suggesting that "we all carry with us a child, a parent and an adult" (pp.169), this allows us to prepare for the hugely varying types of games our world offers. Dylan (Marsh and Wood, 2014) questions if play changes when it is intergenerational, does it become collaborative rather that competitiveness we see in adults? Furthermore Dylan views different generations manipulating a game and its rules depending on what they are interested in, adults display a willingness to play with children, for the child's sake, but deeper within our psychology they are revisiting a time where they were once childlike and free. Sutton Smith and Byrne (1984) in their discussions of the adult-child play connection emphasise "renditions of the behaviour of adults are strikingly similar to the description of Childs play behaviour, especially among friends who regularly play together" (pp. 178). This indicates that it is the level of comfort which an adult feels to show their full personality in the play state. Designers should challenge this allowing for both groups of friends and individuals to encounter more opportunities for play on a daily basis.

In recent theory Kanhadilok and Watts (2014), suggest that intergenerational play has the potential to create a context for social interaction, concluding with the views of Pinto (2010) that an intergenerational approach is the oldest method of learning, moreover providing adults with a sense of wellbeing. In his discussion of 'serious play,' Copperman (2008) analysed the use of Lego for both adults and children stating that Lego is usually seen as a childs toy, as an adult you have a child, but you buy a toy which is more for an adult or

adult enjoyment rather than the child defining this as ‘little adult behaviour.’ Taking this further Marsh and Wood (2014) discuss technological play, Lego is no longer a physical element, and it can also be a pixel on the screen. Does this take away the 3D physical interaction, Merry and Daniel (2012) strongly views that the need for 3D play or ‘model making’ is essential for understanding the built environment, the lack of contact with the physical, results in a lack of physical space perception. It is also questionable if technological play takes us back to the idea of solitary and lack of engagement with others. In contemporary society as mirrored in the ideas of Phillips (Marsh and Wood, 2014), play is important to society, but in contemporary culture we must prompt physical play. Furthermore Cohen (2002) discusses that companies such as Nintendo are now pushing for adults to buy their games for children, but they are to be played by both generations. Maybe it is a likely solution that the Nintendo wii could be referenced as one of the turning points in intergenerational computer play. The essence of the physical play implemented into the traditional computer game, allowed a new genre of computer interaction with the added benefit of the interaction of others in a physical sense of game play.

2.3.7 Summary

"Play has become the designer's stimulus to create products and spaces with a cult personality by engaging individuals on such visual and emotional levels" (Victionary, 2009, pp.2). Victionary (2009) reveals the potentials that playful objects and spaces can give to society, outlining that this scope of research is being grasped by many, but is this enough? We have witnessed that play, no matter in which age we are discussing has highly positive and serious effects upon our wellbeing. Serious outcomes of productivity, creativity, pleasure, and communication, are positive attributes which can be observed through the addition of play. Van Leeuwen and Westwood (2008) bring important suggestions and implications for designs as future recommendations of their study, thus broadening the scope within the area of research into play in adulthood. Most significantly they put forward that we know the purpose of play, but what about its triggers? Play is ultimately an individual experience which has the possibility to be conducted collaboratively. "Playfulness allows adults to approach activities with the same openness of mind with which a child approaches play" (Guitard et al, 2015 pp.19). Sicart (2014) stated the game does not matter, as long as the situation promotes freedom, pleasure and fun, the attitude can be applied to any situation. "Like literature, art, song, dance; like politics, love and math, play is a way of engaging and expressing and being in the world" (pp.5.). Furthermore Bramston (2009a) puts forward that "play is fresh air, a change from the norm and an opportunity to be exposed to high creativity" (pp.159).

The biggest debate is the origins of play, is it biological or cultural? This thesis takes the standpoint that play develops from biological spontaneity to, cultural evolution. Furthermore is play today rational or pre-rational? For Zinma (2014) play within the context of public art in the public context is pre-rational as a creative tool. Cohen argues that "play cannot just be; it has to have a purpose. Otherwise, biology would not have permitted its evolution" (2002, pp.3). A point of view shared with Huizinga (1938) is that the developmental theories all have one thing in common, the assumption that the outcome of play is to provide something which is not play. This argument has been outlined within the 'definition of play,' suggesting that there is not one definition for playfulness and why we play. Furthermore Cohen (2002) argues that the history of play has not been properly explored because there must be a "serious explanation for every kind of play" (pp.36).

2.4 Playful Interactions

2.4.1 Introduction

Conclusions from literature searching reveal play as, humorous, creative, social, experimental, universal, ambiguous and personal. Play within traditional theory is seen as an activity for enjoyment rather than a serious purpose, prior investigations (Lefaivre and Doll, 2007; Waltz, 2010; Whybrow, 2010; Hack, 2011; Merry, 2009, 2012; Merry and Carraz, 2016) suggest that playful interactions hold the potential to be much more than just fun within public space design. It can be highly serious, allowing a change in both public mood and perception.

"According to Freud, funny things cause laughter because they release us from our inhibitions by allowing us to express intentions and thought that would otherwise have remained hidden" (Lefaivre and Doll, 2007, pp.38), in this sense play allows us to forget our inhibitions. Play has multiple positive outcomes, through the employment of playful interactivity, spontaneous actions have the potential to generate positive responses but also encouraging follow on actions. These follow on actions do not always have to be serious, they could be a gesture or smile, causing a positive outlook or chain reaction. Furthermore "play is not isolated in our eventful lives, in fact, it is a string with which we tie our memories and our friendships together" (Sicart, 2014. Pp.18). Moreover play should be because we want to, creating the possibility for multiple actions and reactions in order to leave an imprint on the individual. We are playful beings and in a stressful and serious world play should be embraced to its fullest potential.

If we treat public spaces as areas for 'performance' or activity, they have the possibility to create "participation and two-way communication" (Madanipour, 2003, pp.129). Through the creation of parameters for play within the public setting there is the ability to create experiences in new and innovative ways. This investigation aims to remove the public from their technological interactions to take them back to a basic state of physical play. As such it is more fitting to this study to lean upon the view that to interact with a playful experience is to discuss the "interplay between people and artefacts, even events" (Candy and Edmonds, 2011, pp.1). The knowledge of playful interactions is essential to guide research methods.

Interactive design generally focuses on a communication between people and technology, whereas the term interaction design is more varied in the mediums it approaches. Salmond and Ambrose (2013) view interactive design as a method of expanding

and enriching methods within traditional media, “it allows audiences to engage, share, comment and interact with content” (pp.10). In agreement Steane (2014) notes that “interactive design is defined as the shaping of digital products and services for people to use” (pp.7), whereas, “interacting is an everyday phenomenon, the word interaction is used to express many kinds of interplay between people and artefacts, even events” (Candy and Edmonds, 2011, pp.1). In a similar view interaction design focuses on “the relationship between designed artefacts and those that are exposed to these artefacts” (Fallman, 2008, pp.4). Although Fallman’s definition seems to point towards any medium, his article and view point still directs towards that of digital interaction. Kaptelinin and Nardi (2006) and Candy and Edmonds (2011) refer to interaction in a similar context describing it as “acting – in the world” (Candy and Edmonds, 2011, p.32), but like Fallman their subject range is ‘acting – with – technology’ yet their definition seems much broader and applicable to many mediums. “Design, at its core, is about communication, independent of the medium or media. Increasingly interactive designs focus is creating an experience through narratives and emotional connections” (Salmond and Ambrose, 2013, pp.6), thus highlighting that the playful experience which encompasses interactive properties allows the potential to create a narrative which creates an emotional connection for the greater goal of sociability and increased spatial interactions.

Through the introduction of activities which cause pleasure the literature review highlights an emotional approach to playful interactivity, searching how emotions and experiences are connected. Furthermore current playful interaction frameworks are explored, and finally an inquiry into genres of art and design which surround playful interactivity aim to place this research within theoretical context.

2.4.2 Experience, Pleasure and Emotion a Playful Approach

Through the introduction of activities which cause pleasure, it is hypothesised that users' social and spatial interactions will be increased for the overall goal of place creation. Costello and Edmonds (2007) discuss interaction in terms of interactive artists and artworks, concluding in a play/pleasure framework which involves:

> *"designing for minor actions that people can perform impulsively and with little effort, and that provide enjoyment. This differentiates designing for playfulness from game design as the latter is involved with creating systems with rules and content."*
>
> (Costello and Edmonds, 2007, pp.40)

Literature has shown that play has the ability to be adapted for all, providing different experiences and interpretations even if they are experiencing the same act of play. Experience is unique depending on: the person, the place, time and context in which the game or play experience is being conducted (Amin, 2006; Carmona and Tiesdell, 2007; Gehl, 2010; Whybrow, 2010; Wunderlich, 2014). "The important aspects of city space must be interwoven into a convincing whole" (Gehl, 2010, pp.176), to successfully combine aesthetics and function to create experience. In agreement Canter (1977) notes that "we need to look beyond the 'shelter' [...] think more of people and the primacy of their experience" (pp.183). Experience, within the perspective of this investigation, "is inevitably contextual" (Whybrow, 2010, pp.32.), it is seen as individual while at the same time being affected by the reciprocal. Placing 'play' as a 'tool' allows for increased emotional responses, Norman states:

> *"Emotions, moods, traits and personalities are all aspects of the different ways in which people minds work, especially along the effective emotional domain. Emotions change behaviour over a relatively short term, for they are responsive to immediate events... Moods last longer perhaps in hours or days."*
>
> *(*Norman, 2004, pp.34)

Forlizzi and Ford (2000) noted a "growing interest and enthusiasm for 'designing the user experience'" (Pp.419), during their research it was stated that further directions were needed in defining the type of experience required, pointing out that products need to offer stories which invite engagement. Whybrows (2010) opinion of experience within the public realm is the 'embodied,' "it is dependent on participating entities who engage or interact with art [...] therefore, as much producers, consumers or recipients" (pp.15). "The settings

impact is affected by the persons internal mood which, in turn, is often influenced by the setting through memories or fantasy" (Steele, 1973, pp.81). Desmet, Jeroen and Karlsson (2009), puts forward the view that "in the design experience, the object of our experience is not necessarily the design itself, it can also be an associated person, company, idea, activity or memory" (pp.5). Adank and Warell (2009), note that the "role of sensory perception is to guide us to engage with products that look and feel safe, friendly and useful" (pp.35). Furthermore within interactive art, designing for user experience is the "objective of engaging them in positive experiences" Bilda (2011, pp.163).

But what is experience? Pine and Gilmore (1999) are a continually cited in contemporary theories of experience creation, noting the two as pioneers in the field. The relevance of their extensive study to this literature review is not so much its conclusion of the experience economy, it is the legacy left, which has been delved into explored by others in relation to the design process. Sundbo and Hagedorn-Rasmussen (2008) note that "experience production has become more businesslike and less artistic" (pp.83), in parallel, Sundbo (2008) attempts to move away from the experience economy, linking relevant theories to the experience society, claiming that "the focus on experiences is not superficial" (pp.2). It is in fact seen as a method in establishing "status and power in society" (Sundbo, 2008, pp.2), through art and design as a factor of creative engagement. Furthermore, Korhonen, Montola and Arrasvouri (2009) comment that as we live in the experience economy every aspect should be related to experience; thus prompting the development of their playful interaction model. Sundbo (2008) discusses a definition of experience which this literature review leans towards.

> *"Experience will be defined as a mental journey which leaves something immaterial – a memory or a sensation. Such an experience can be entertaining. [...] Experience is started by an external stimuli – events, actions or interactions, but is happening in the mind of the individual. [...] Experience is relative. It varies in intensity from person to person."*
>
> (Sundbo, 2008, pp.4)

This view is shared by Steyn (2014), "experience is essential for community arts professionals" (pp.230), and that "something worthy of the name experience cannot leave us where we began" (pp.234). Sundbo and Hagedorn-Rasmussen (2008) note that the production of 'art' as experience is like the theatre, the designer must be aware of the levels of occurrence, splitting it into two halves. The stage and the backstage, noting that the 'consumer' or in the case of this research the 'public' should not be aware of the backstage, they must enjoy the core of the artistic experience. Relating this back to place-maker theory

the designer is promoted to produce the stage for public life (Madanipour, 2003). Whereas Christup (2008) connects it to the dimensions of "space, time, interaction and engagement," (pp.206) most importantly her paper notes that experience creates emotions, through emotions we tap into a universal notion where all can relate. Furthermore Bramston, (2009a) puts forward that when designing with experience in mind, it must be considered at the outset as a fundamental element in the design process. This too can be said about spatial design, Goodwin (2014) cited by Ellrichshausen (2014) advocates that "much of the richness of architecture comes from the multifaceted way our senses respond to it, from the way it catches our imagination and from its emotional impact on us" (pp.37).

At this stage in the investigation it is rational to link the universal notion of experience to a state of pleasure and emotions, brought about by play. Emotions as characteristics of contemporary design have been researched at the beginning of the 21st century. Jordan (2002), Norman (2004) and Desmet, Jeroen and Marianne, (2009) surround their research with the notion that "we cognitive scientists now understand that emotion is a necessary part of life, affecting how you feel, how you behave and how you think" (Norman, 2004, pp.10). In more recent theory Desmet, Jeroen and Marianne, (2009) notes the sensorial experience as the stimuli for good design. Sensory perception is seen as "part of the total product experience," which leads to "a range of effects originating in products, including aesthetic, emotional and pleasurable responses" (Adank and Warrell, 2009, pp.36). The works of Jordan (2002) and Norman (2004) can be closely linked in their perception of pleasurable objects, both opting to delve into the 'four pleasures' put forward by Tiger (1992).

> *"Play is a behavioral phenotype and cognitive style that certainly fuels our production and appreciation of beauty and other forms of aesthetic experiences, but it lies at the very core of our biological identity and inspires far more varied cultural expressions."*
>
> (Prager, 2013, pp.242)

Designers use pleasure to entice users to buy their products. One such example is that of Phillippe Starck, interior and industrial designer. In an interview (Genius of Design, 2010) Starck points out: why design without emotion? His products are created for emotional reactions, and in many cases this may be negative, humour, or love. His iconic lemon squeezer seen in figure 2.4 has been of much debate in both the works of Jordan (2002) and Norman (2004), discussing that a beautiful object has been created for an emotional response, the functional aspects are missing, but yet it causes the consumer pleasure.

Figure 2.4: Juicy Salif lemon squeezer by Philippe Starck for Alessi

Pre 1990s, 'Apple' as a brand was not particularly aesthetically pleasing, but through the introduction of designer Jonathan Ives, the pleasure and fun aspect of their products have been embraced in a simple and eye-catching way (Genius of Design, 2010). In agreement Allanwood and Beare (2014) challenge that usability, simplicity, fun, narrative and constraints create an engaging and interactive experience. Furthermore Anderson (2011) notes that "aesthetics must appeal to all the senses" (pp.18), at first we see or hear, but then we explore if we are in fact attracted, suggesting that the designer "must consider every stimulus that might influence user interaction" (pp.18).

> *"The emotional system is also tightly coupled with behaviour, preparing the body to respond appropriately to a given situation [...] Unpleasant things cause the muscles to tense... We literally feel good or bad, relaxed or tense."*
>
> (Norman, 2004, pp.12)

Similarly, Hendricks (2015) concludes that emotions are "object related affective states of mind" (pp.27) as responses to stimuli, situation and self awareness. Taking the emotional approach further Grimaldi (2009) considers surprise as an emotion, stating that "a pleasant surprise will have a stronger reaction than a pleasant event which has no surprise" (pp. 167-8). Within this argument it is suggested that gut reactions cause an increased sense of connection. Surprise is a cognitive response, "cognition interprets and understands the world around you, while emotions allow you to make quick decisions about it" (Norman, 2004, pp.12).

Connecting a surprise response to emotionally engaging situations it can be concluded that people play because it is satisfying (Henricks, 2015), furthermore, in relation to public space:

> *"the physical setting can give us feelings of satisfaction because it meets our needs on other dimensions, such as shelter, social contact, or task accomplishment, [...] we get pleasure simply from being in a particular place. This pleasure can take various forms, including feelings of happiness, joy, excitement, wonder and appreciation of great beauty."*
>
> (Steele, 1973, pp.73)

2.4.3 Playful Frameworks

For Guitard, et al (2005) playfulness in line with Liberman (1977) is defined as "a state of mind, an internal predisposition that is composed of creativity, curiosity, sense of humour, pleasure and spontaneity" (Pp.19). Moreover, Proyers current publications, (2012, 2103, 2016) put forward that humour is a very specific variant in the concept of playfulness, it is a method to enhance mood, exhilaration and laughter, prompting that humour and playfulness both overlap and interrelate as seen in figure 2.5.

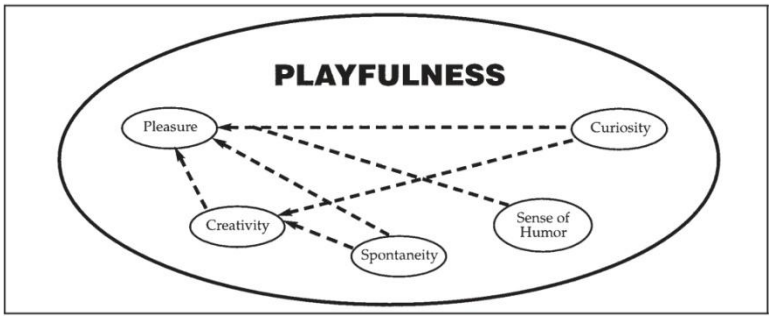


Figure 2.5: Guitard, et al, 2005, Components of Playfulness

Furthermore, the influential publication of Glynn and Webster (1992) is continually cited amongst contemporary theorists in relation to playfulness in adulthood and the scale of playfulness despite their findings of no definitive differences between adult and child play. These models all provide insight into play as an activity for pleasure. In relation to playfulness and design, Costello and Edmonds (2007) attempt to bridge current findings with interactive art, forming the play pleasure framework seen in figure 2.6. Costello and Edmonds (2007) view interaction as a motivation to engage with the art work itself, thus "provoking an active reception" (pp.77). Edmonds (2011) later argues that perception is the key to viewing art works. Costello and Edmonds (2007) hypothesised that through

"stimulating playful audience behaviour" they could "achieve a deeper level of audience engagement" (2007, pp.77). The framework was born out of the notion that both engagement and exploration are apparent within the observation of playful behaviour; placing play at the forefront of the framework.

<table>
<tr><th>Groos</th><th>Callois</th><th>Csikszent'</th><th>Apter</th><th>Garneau</th><th>LeBlanc</th><th>Framework</th></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>Power</td><td rowspan="2">Expression</td><td rowspan="2">Creation</td></tr>
<tr><td>Creation</td></tr>
<tr><td rowspan="8">Pleasure of being a cause</td><td></td><td></td><td>Exploration</td><td></td><td></td><td>Exploration</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>Discovery</td><td rowspan="2">Discovery</td><td rowspan="2">Discovery</td></tr>
<tr><td rowspan="2">Problem Solving</td><td rowspan="2">Intellectual problem solving</td></tr>
<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">Challenge</td><td rowspan="2">Application of Skill</td><td rowspan="2">Challenge</td><td rowspan="2">Difficulty</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Competition</td><td>Competition</td><td></td><td>Competition
Advancement & Completion</td><td></td><td>Competition</td></tr>
<tr><td rowspan="2">Chance</td><td rowspan="2">Risk & Chance</td><td>Facing Danger</td><td>Thrill of Danger</td><td></td><td>Danger</td></tr>
<tr><td></td><td>Immersion
Beauty</td><td>Submission</td><td>Captivation</td></tr>
<tr><td></td><td>Vertigo</td><td></td><td>Arousing Stimulation</td><td>Physical Activity</td><td>Sensation</td><td>Sensation</td></tr>
<tr><td>Aesthetic sympathy</td><td></td><td></td><td></td><td></td><td></td><td>Sympathy</td></tr>
<tr><td rowspan="5">Pleasure of make believe</td><td>Simulation</td><td>Creative</td><td>Fiction & Narrative</td><td></td><td>Narrative</td><td>Simulation</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Fantasy</td><td>Fantasy</td></tr>
<tr><td rowspan="2"></td><td rowspan="2">Friendship & Relaxation</td><td rowspan="2"></td><td>Love
Social Interaction</td><td rowspan="2">Fellowship</td><td rowspan="2">Camaraderie</td></tr>
<tr><td rowspan="2">Comedy</td></tr>
<tr><td></td><td></td><td>Negativism
Cognitive
Synergy</td><td></td><td></td><td>Subversion</td></tr>
</table>

Figure2.6: A Summary of theories that contributed to the pleasure framework development. (Costello and Edmonds, 2007)

The frameworks '13 pleasure categories of play' seen in figure 2.6 are suggested to be used for both creation and evaluation. Framework guidelines aid designers during the design process and post design experience, during the study users were questioned on the importance or occurrence of each state. Conversely, the pleasures of play may not be pleasures for all, i.e. danger and subversion are not usually seen as safe traits within public space design.

An important view of Norman (2004) shared by Korhonen, Montola and Arrasvuori (2009), is that "technology should bring more to peoples' lives than improved performance and tasks: it should add richness and enjoyment" (pp.274). The research group aimed to extend the playful experience through the creation of 'PLEX'[11] seen in figure 2.7. PLEX was built upon the '13 pleasure categories of play' as displayed by Costello and Edmonds (2007), researchers believed that it was "too focused on the research of pleasure playful interfaces

[11] Playful Experience Framework.

in interactive artworks" (pp.278), thus aimed to extend the parameters of the existing framework.

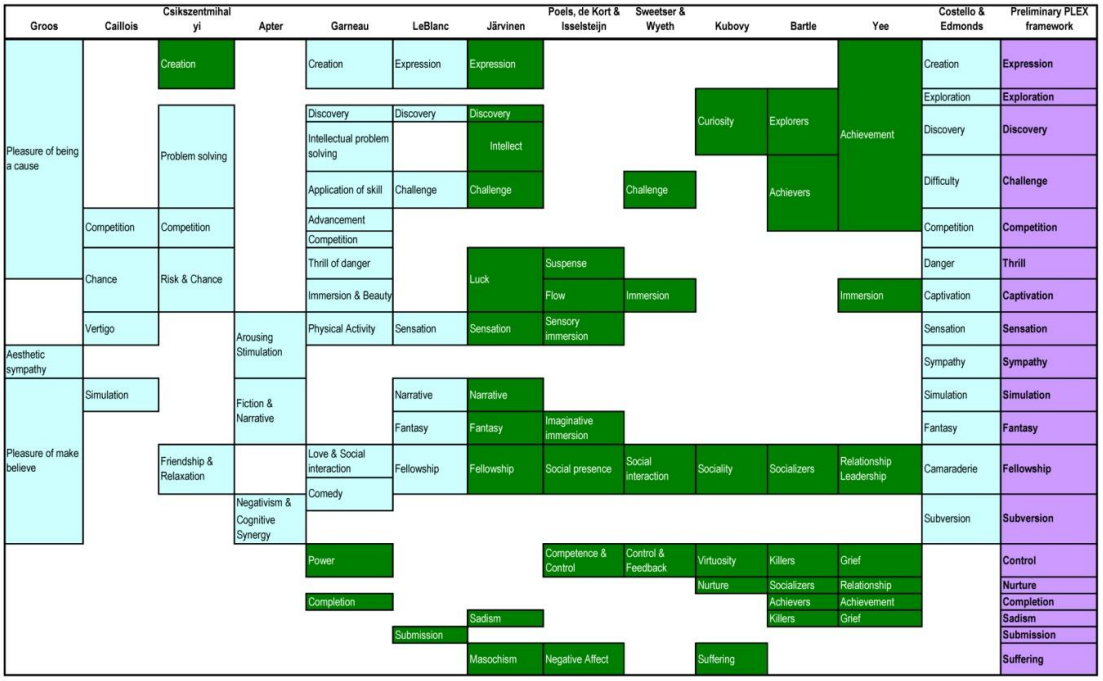


Figure 2.7: A Comparative Framework of the PLEX scenario and the '13 pleasure categories of play' (Korhonen, Montola and Arrasvuori, 2009)

The new model was produced with a broader view on play and experience; arguably the new dimensions create a narrower view specific for immersive game design. The PLEX study focuses on interplay between play and game. The development of the research resulted in the 'PLEX cards' (Lucero and Arrasvuori, 2013) a physical deck of cards allowing a highly stimulating tool for mind mapping. The PLEX cards provide a method for designers to think about various levels of playfulness within an easy to facilitate and playful process.

Her (2010) in agreement advocates digital interactivity through art. Similarly to the genre of persuasive gaming he takes the approach of 'the magic circle' as borrowed from Huizinga's homo ludens where "all play moves and has its being within a play-ground marked off before hand either materially or ideally, deliberately or as a matter of discourse" (pp.22). Her (2010) focuses on public space discussing play as the "meaningful interactivity" (pp.27). His research surrounds how play can be used as an 'ingredient' of engaging characteristics of art works. The five engaging characteristics are outlined as: *Incentive, Transfer, Accessibility, Play and Challenge.*

Furthermore to the production of playful engagements, Candy and Edmonds (2011); Bilda (2011) and Brown (2014) put forward various levels of user interaction which can occur within participatory art. Edmonds (2011) notes that we can approach these interactions as:

"direct, facilitated and ambient" (pp.237). The Creative engagement model, (CEM) (Bilda, Edmonds and Candy, 2008) "represents the interaction behaviour of the museum visitor or participant" (pp.168). The issue arises with the spatial setting; their research is focused towards the museum or gallery experience, thus opening the question to the suitability within public space. Prompted by an examination of interactions in public space, models of interaction with multi – touch screens were reviewed (Vogel and Balakrishnan, 2004, figure 2.8 and Muller et al, 2010, figure 2.9). In line with Muller et al (2010), Forlizzi and Fords (2000) put forward and idea of follow on actions past the design experience, "a good product is one that offers a good or memorable narrative that the user will engage with, pass on to others, either by sharing the artefact or talking about it" (pp.422).

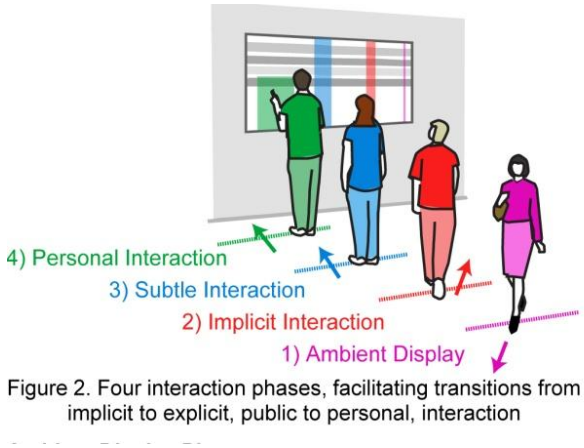


Figure 2.8: Four Interaction Phases (Vogel and Balakrishnan, 2004)

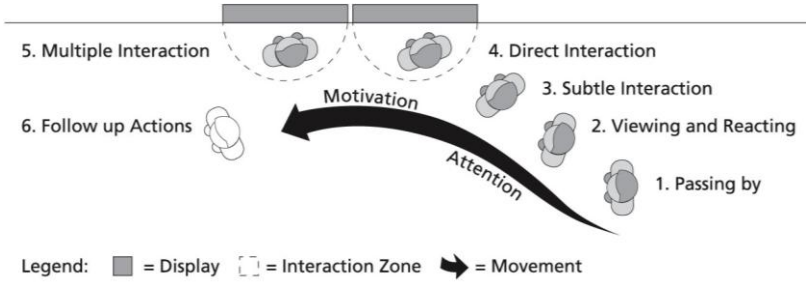


Figure 2.9: The Audience Funnel (Muller et al, 2010)

2.4.4 Approaches to a Playful Experience

Within the public space setting Lefaivre and Doll (2007) proposed 'play as a design tool' through the introduction of multiple playgrounds within smaller localised centres of the city. Despite successes of non or low technological projects, many criticisms have been levelled at these categories of design solutions, suggesting digital immersion and new media as the answer for new public spaces especially the new spaces and spatial activities of the 21st century (Hornecker, 2005; Hornecker and Burr, 2006; Castello and Edmonds, 2007; Candy and Edmonds, 2011; Her, 2010, 2014). Technological discoveries have "extended and reshaped the physical environment. They have changed our visual surroundings partly by actually rebuilding our physical environment" (Kepes, 1995, pp.13). Hack (2011) recognises the possibility to "transform neglected or forgotten neighbourhoods of the city" (pp.456) through urban flux. Additionally Byrne (2010) suggests subtle technological interactions through mobile phone devices and social media implying that meaningful encounters can be created. Conversely, the studies of Poplin (2012) concluded that a highly technological scenario, involving public participation at present was seen as 'complex.' In her studies participants did not like the complexity of the online platform provided for a public space planning project and as such did not have an incentive to become involved. Furthermore local councils saw the online platform as a huge expense that was not particularly necessary. Moreover Banaji (2009) comments that "digital technology can, but does not necessarily, support the expression and development of creativity" (pp.158).

Figure2.10: Candy Chang, I wish this was...., 2011 *(Screen Shots, Urbanized, 2012)*

Figure 2.11: The Tidy Street Project, (2011) part of CHANGE, an EPSRC funded research collaboration between The Open University, Goldsmiths, Sussex University and Nottingham University. *(Screen Shots, Urbanized, 2012)*

During the Documentary 'Urbanized' (2012) two projects with no obvious technological approaches are discussed: Candy Changs – 'I wish this was...' (Figure 2.10), and a street intervention making people more aware of their electricity usages (Figure 2.11). Both are clearly playful and yet could not be more opposite in final outcomes. Candy Chang aims for users to think about their spaces and what their spaces mean to them, where as the street intervention wishes for home owners to save and take note how much electricity they are using, concluding that playful outcomes may result in multiple possibilities.

Anderson (2011) cites the piano stairs seen in figure 2.12a as his first reference point to interactive design. Although his research concentrates on digital human computer interactions he uses this example to illustrate the "process of deliberately enticing a person to exchange in some sort of behaviour" (pp.3), promoting that can be done through the means of seduction, it is tempting and attractive. In a similar discussion Candy and Edmonds (2011) discuss the Sunflower Seeds exhibition by Ai Weiwei in the turbine hall at the Tate Modern (figure 2.12b/c, 2010). The interaction was completely low technological but "because of the enthusiasm of the crowd's interaction with the work" (pp.1) the exhibition had to be closed as it had produced dust which potentially could cause harm to health. In a similar exhibition, Carsten Hollers 'Pill Time Piece' (figure 2.12d, 2015) at the Hayward Gallery dropped a pill every 3 seconds, the public or visitors to the exhibition were each allowed to take one home. In this case the participants were observed to be highly enthusiastic that they could take a piece of the art home with them, causing an interaction. It is not to say that technology was not present within this piece but, the audience were not concerned with the mechanics behind it. (Merry, Personal Observation).

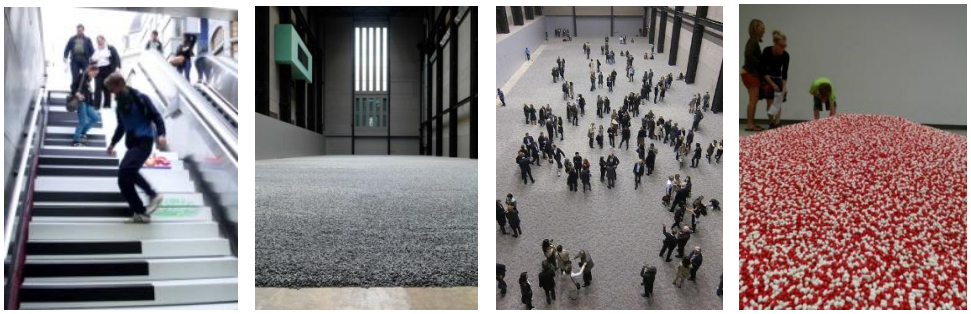


Figure 2.12: Interactive Art Installations
a. Volkswagen Fun Theory, Piano Stairs, Sweden, 2009
b. / c. Ai Weiwei's Sunflower Seeds, Tate Modern, London, 2010
d. Carsten Holler, Hayward Gallery, Southbank, London, 2015 *(Personal Image)*

2.4.5 Art and Design as Creative Engagement

Gehl (2010) outlines interplay between city life and quality of activities, concluding that optional activities produce the highest quality environments. An early view of Hurtwood (1968) suggested that "the designer must devise new means for establishing a connection between the building he creates and the people on the ground" (pp.11), striving to keep the essence of play alive and the act of spontaneity in design. In many discussions of play in public spaces, we are opened to the notion of the 'ludic' self or being. It is questionable how designers can evoke this Ludic nature. Stevens (2007) suggests that "objects in the urban landscape prompt creative and exploratory engagement" (pp.194), grouping them in to the following categories: public artworks, objects for playful activities and street furniture.

> *"Artists and designers have a role in visualizing play spaces in the city. When their mental freedom is encapsulated in playful interventions, an urban context arises that enables a spontaneous sense of surprise and allows scope for the citizen at play."*
>
> (Lefaivre and Doll, 2007, pp.28)

> *"As the built environment becomes increasingly computationally equipped, the player dimension of play space will become more and more important. Designers should always be aware that they never design the actual player experience, only the framework wherein that experience will take place."*
>
> (Waltz, 2010, pp.15)

Is it right to agree that designers can only produce the framework in which experience takes place? Gehl (2010) advocates that we need the "invitation of play for people to express themselves" (pp.158), without invitation why would we play, this statement could also be linked back to Whytes (1980) theory of triangulation, if there is no stimulus or catalyst why would an interaction occur, it is the designer that should give permission. Franck and Stevens (2007) take advantage of 'loose' spaces of the City advocating that loose spaces "allow for the chance encounter, the spontaneous event, the enjoyment of diversity and the discovery of the unexpected" (pp.4). Within the wider debate of placemaking it is now up to planners, designers and local councils to employ these methods. Madanipour, (2003); Amin, (2006); Gehl, (2010); Whybrow, (2010); Hack, (2011); Carmona, (2014a); Wunderlich, (2014) all support a fixed space for daily function which allows flexible and temporary short term impacts such as street music, festivals and art installations. Various theorists in the field of adult playfulness (Guitard et al, 2005; Costello and Edmonds, 2007; Korhonen, Montola and Arrasvuori, 2009; Proyer, 2012, 2016)

benchmark: creativity, curiosity, sense of humour, pleasure and spontaneity among others as traits for the playful act events which encompass the potential for these emotions to increase user experience within their 'loose' spaces of the city.

Historically public art begins with the monument, but what may be missing today is the link between the public and the art work due to contemporary art contexts. Lynch's seminal publication *'Image of the City'* (1960) is viewed as an inspirational work by contemporary theorists in the field of Urban design (Jarvis, 1980 and Carmona and Tiesdell, 2007). Lynch (1960) interrelates pleasure of the city with artistic creation. "The city is experienced in the context of everyday events and associations of past and present [...] 'nothing is experienced by itself'" (Jarvis, 1980, pp.37). Furthermore Gehl (2010) highlights through a Melbourne case study that successful city policy "emphasises on installations and temporary works, making a valuable contribution to the attractive selection of experiences and unpredictability" (pp.179). An artist's role in placemaking is seen as a creative method of creating better neighbourhoods (Charity, 2005). Whybrow (2010) suggests that art works have the potential to connect and actually produce our cities. In agreement, Hayden (1995) believes there are new means of being artists today, "for all, the key to acquiring an audience is making meaning for people in resonant and original ways" (pp.67). Hack's (2011) suggestion of the 'urban flux' attempts to move away from the predictability of the usual urban setting, noting that something is missing in the way that we think of urban design today. Through the advocation of the 'fluxus' movement, he suggests captivating user experience through the dimensions of artistic experiences, promoting that graffiti, performances and festivals could be the new experience. Klanten and Hübner (2010) also discusses the ideals of the fluxus movement, as changing cities in an overnight context so that in the morning the city would be perceived differently, thus bringing a conventional scene of artists on the streets and in turn changing the streets. Referencing Hack (2011), Carmona (2014b) puts forward the continued shaping of spaces long after their initial creation, "potentially changing patterns of use, therefore urban design outcomes over time" (pp.22). These ideas can be linked to Grimaldi's (2009) concept of the *'Ta-Da series – A technique for generating surprising designs,'* surprise allows us to forget our inhibitions and react instinctively. Madanipour (2003) has suggested that within the public realm we, the 'public' wear masks. Through allowing the public a 'wow' moment through the engagement of art or design, the masks do not have time to surface and we see the gut reaction of the person.

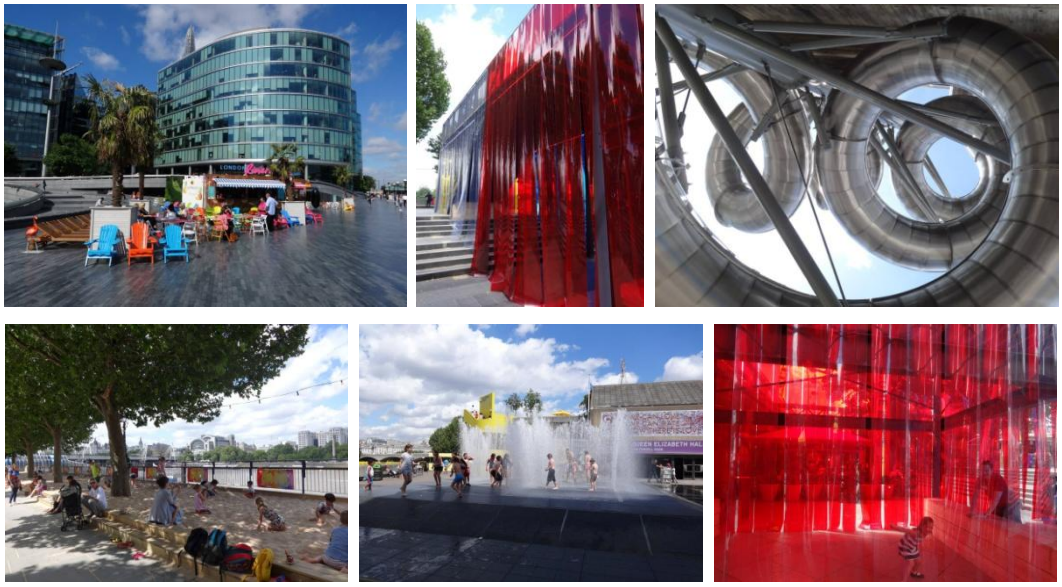


Figure 2.13: Playful Interactions, London Southbank, 2015. *(Personal Images)*

Byrne (2010) analyses the need for the changing audience within the digitalised world, focusing on the idea that digital interaction can be lonely and we have the need for physical social interaction and play. Through the use of both contemporary literature and classic Lefebvrean theory Whybrow (2010) points towards the embodiment of public art in the urban realm as a new performative cultural entity, seeing the people or the public as actors within a space which has the potential to be experienced differently by artists. Although Carmona (2104b) views urban design as underpinned by private policy and local authority, he puts forward that temporary 'activities,' 'adaptation' and 'appropriation' are methods to draw in the public, "constantly changing character, even in the same location, over time" (Pp.24). Amin (2006) provides that temporality is the way forward; he points towards 'mobile attachments' and 'transformative interventions' for the good of the city. Furthermore the notion of re-enchantment of the city is promoted; the 'good city' needs an urban experience. The playground, in line with Lefaivre and Doll (2007) has the potential to create new city links of enchantment. Sicart (2014), attempts to define playgrounds, or play spaces within the city, he contextualises play spaces as being "in the context of things, cultures, and people, in time and in space" (pp. 50/51). The playground is designed for play but he suggests that they do not always allow us to explore creative capacities. Play spaces are not limited to that of children; they are also being explored through various urban interventions within the creative city. To date much research of urban interventions concentrates on high profile works (Carmona 2014b). On the other hand much value can be seen in the work of practitioners on a smaller scale: Kurt Perschke, Candy Chang, Plastique

Fantastique, and Daily Tous le Jours to name a few, all of whom aim to heighten user experience in public space through participatory engagement. Furthermore, during the course of this study the museum of design, Atlanta, USA opened an exhibition entitled 'Designing Playful Cities' February, 2018, stating that "as our Cities become more and more densely populated, we must design spaces for play into them" (MODA, 2018). Overall the exhibition aims to present the case (Figure 2.14) that all ages should engage in play, thus promoting the designer to develop creative playful spaces within the city.

Figure 2.14: 'Designing Playful Cities' Installation Participants:
a. Delirious Frites by Les Astronautes, 2013
b. Hedron - urban ping pong table by Urban Conga
c. Spun Chair, Thomas Heatherwick, 2010

A fundamental concern of this study is the placement of the subject matter within current research, questioning which genre of art and design we are discussing or if indeed it fits within any field at all. The terms interactive and interaction have been widely discussed; conclusions suggest that contemporary interactive art is more concerned with a technological approach rather than a low or non technological physical play. As such it may be sensible to explore other terminologies in order to define the genre of this thesis.

Public Art: "is a reflection of how we see the world – the artist's response to our time and place combined with our own sense of who we are" (Association for public art, 2018, para.1). "Usually, but not always, public art is commissioned specifically for the site in which it is situated. Monuments, memorials, and civic statues and sculptures are the most established forms of public art" (Tate, 2017a, para.1).

In theory public art aims to focus on the increase of public space image and its surroundings. Current research within this investigation has stated that there are varied problems with public space today, linking it to a nostalgia of the past and the notion of public art as the monument (Whybrow, 2010). A contemporary view of public art by Naum Gabo is that it "should follow us everywhere that life flows and acts" (Montagu, 2007, pp.10). Current theorists have begun to question what art is in public space, questioning if it

should be redefined as “public art? Art in the public Realm? Or People art?” (Montagu, 2007, pp.10) The word ‘realm’ for Montagu suggests control, questioning if public art is really public. Whybrow (2010) argues that the embodiment of public art is a new method of ‘performance’ or cultural entity depending on the level of permanence. Thus suggesting that redefinition is required for public need and contemporary outcomes. Doherty, puts forward that “artworks involving social interaction is to consider ways in which they represent, and in some cases remake place” (Montagu, 2007. pp.31), continuing that “this public realm is not simply a site, but also a route through, a point of exchange, the connecting tissue between divergent cultures and histories, and a space of potential collisions and meeting” (pp.31).

Figure2.15: Public Art, (Newly Restored) LOVE, Robert Indiana, 1976

Interactive Art: “emerged in the late 1950s in parallel with artists’ desires to find less alienating and exclusive environments in which to show art” (Tate, 2017b, para. 1). “Art becomes interactive when audience participation is an integral part of the artwork” (Edmonds, 2011, pp.19). Frieling (2008) views interactive or participatory art as open invitations, this invitation is interactivity of which the user chooses. Candy and Edmonds (2011) are quick to note that interaction does not specifically relate to the notion of technology as seen in figure 2.16, and in the case of Ai Weiweis sunflower exhibition at the Tate Modern in 2010. Edmonds (2011) in his own works states that the beginnings were simple leading to a more complex nature. His initial research during the 1970’s was tactile artwork which allowed users to interact in a highly physical way exploring themselves and their surroundings, since then Edmonds’ work has developed into the realms of technology and further research on the methods of interactivity. Kluszczynski (2010) is one of many along with Candy and Edmonds (2011) who begin with the notion that interactive artworks are viewed as an event or activity for receivers, seemingly suggesting any medium is possible. Since its ‘humble’ beginning of non technological approaches Graham (1997) along with Ascott (Candy and Edmonds, 2011) suggests that the future of interactive art should be “post digital rather than pre-digital” (Editors preface, vi). In agreement Bengtsson (2007)

states that interactivity is a medium dependent on technology, suggesting a push towards a digital future in an almost new language of art or design.

Figure2.16: Interactive Art Installations (Low/Non-Tech)
a. In Orbit, Tomás Saraceno, 2013
b. Diébédo, Francis Kéré, Sensing Spaces Installation, 2014 *(Personal Image)*

Bengtsson (2007) leans upon Edmonds and Muller (2006) expressing that interactive artworks actively engage the public. Furthermore Candy and Edmonds (2011) citing Boden (2005), argue that "there is no established aesthetic associated with interactive art" (pp.6), the notion of the aesthetic is seemingly less important, but as an attribute of interactivity as an attraction in creating quality interactions instead. This is possible when interactive art takes a contemporary stand point in relation to other artistic movements. In the words of Edmonds: "the aesthetic experiences of the audience include experiences of action and response as well as experiences of perception, as in a static work of art" (pp.19), thus pointing towards interactive art being about much more that one of our senses. Kluszczynski (2010) also leaves us with a context of interactive art, "an artist does not make the final, completed piece of art, instead produces an area of activity for the receivers, whose interactive actions bring to life the artwork" (pp.2).

Installation Art: is **"**the functional movement of placing the work of art in the 'neutral' void of gallery or museum" (Suderburg, 2000, pp.4). Sandu (2014) question if the context of today's installation works, whether they are art or design? Sturken, (2000) summarises that the meaning of installation is "created in the moment when a viewer is interacting with it – walking into and through it standing within it, watching or even touching it" (pp.287). In agreement, interactive installations as described by Bramston (2009b) allow the possibility for a multiple user experience in order to create memorable, intriguing, exploratory and highly creative acts. Suderburg (2000), additionally reminds us that in the 1960s and 70s "Robert Smithson's use of the terms site and nonsite to label his works that removed

samples from exterior sites and placed them into the 'neutral' space of the gallery demanded an expansion of what could be thought of as art" (pp.4). Furthermore defined by the Tate Gallery (2017c) Installation Art is viewed as:

> *"different from sculpture or other traditional art forms [...] it is a complete unified experience, rather than a display of separate, individual artworks. The focus on how the viewer experiences the work and the desire to provide an intense experience for them is a dominant theme in installation art"*
>
> (para. 1).

Figure2.17: Installation Art, Carsten Holler, Hayward Gallery, Southbank, London, 2015 *(Personal Images)*

Urban Intervention: is usually the term supplied by artists or practitioners who wish to create a temporary statement within public space. Urban interventions "challenge and adapt civic spatial rules to their benefit" (Klanten and Huebner, 2010, pp.4). In the extensive publication *'Urban interventions personal projects in public spaces,'* Klanten and Huebner, (2010) outline urban interventions in all of their forms, it has been noted that the fundamental nature of urban interventions are not solely within an interactive context. Within modern art history theory McQuire (2008) notes that the Situationalists which are most widely referenced as pioneers of urban interventions aimed at alerting "people to their imprisonment by urban routine" (pp.144). Furthermore, detailed by Rice (2009) the approach of 'Derive' is positioned as a placemaking strategy and a way to understand the city. Moreover described by the Tate gallery (2017d) art interventions "radically transform the role of the artist in society, and thereby society itself" (para. 1). In relation to the writings of McQuire (2008) a detailed account of the urban intervention as a 'performing space' is traced as a method of social change.

Zimna (2014) criticises the agenda of urban interventions noting that "many interventions may be too focused on a political statement rather than aesthetic" (pp.155). Whereas, Lefaivre and Doll (2007) point out that designers and planners are not exploring

the impacts of play on public space to date; it is artists who are conducting urban interventions, concluding that final outcomes are having different effects and experiences.

Figure2.18: Urban Interventions
a. L/B, Comfort 6, La noche en blanco, Madrid, 2008
b. Kamila Szejnoch, Swing, Warsaw, 2008,

Tactical Urbanism: has been described as an "approach to neighbourhood building and activation using short-term, low cost and scalable interventions and policies" (Lydon and Garcia, 2015, pp.8) within a flexible framework. Furthermore projects encompass tactics of happening quickly and disappear rapidly with a willingness to start small but conversely centre around long term goals (Munro, 2017). In an opposing view to DIY Urbanism it is a legal and bottom up approach to accomplishing goals for policy change. A widely cited approach to tactical urbanism is the Volkswagen fun theory (2009) aiming to implement fun tactics for the better of public life.

Figure2.19: Tactical Urbanism Collage, CSPM Group, 2015

Street Art: also known as DIY Urbanism encompasses an interrelationship with that of activism and the "expression of the individual" (Lydon and Garcia, 2105, pp.8). Hassan et al (2015) discusses street art as adding "liveliness to the city, where at times, they encourage responses between people and space. Any street art that makes people interact with it can be considered as interactive street art" (pp.199). Whybrow (2010) considered graffiti as an interactive game, where we can make comparisons with the work of Bansky and his 'overnight' implementations to the city. A new notion of 'yarn bombing' also brings about an idea of street activism. Yarn bombing takes an extreme amount of time and effort to create, as stated by Lyndon et al (2015) "We might describe it as a type of street art or opportunistic placemaking" (pp.8).

Figure 2.20: Street Art/DIY Urbanism
a. Bansky, Graffiti is a Crime, 2013. b. JR, The Wrinkles of the City, 2011
c. Lorna Watt and Jill Watt, Squid Tree, 2013

During the course of this research attention has also been brought to further genres of interactive artworks. A more recent genre of design within public space is 'Persuasive games'. Coppock and Ferri (2013) define persuasive games as being linking to Huzinga's 'Magic Circle,' which is seen as play taking place within the space away from the seriousness of life. It is also an approach of Her (2010/2014). In this sense the notions of play and the 'magic circle' which date back to 1938 allow a theoretical context which is somewhat dated to be continually relevant today.

The definition of persuasive gaming suggests that we are still looking at the technological medium to describe this area or genre. On the other hand academics Coppock and Ferri (2013) attempt to combine the notions of persuasive gaming, urban games and serious gaming to form the notion of 'serious urban gaming,' believing that "ludic practices in urban spaces offer countless untapped potentialities for the promotion of active, responsible forms of citizenship" (pp.1).

The serious urban game is seen as an emerging field or developing phenomenon within a technological approach utilising “digital support and serving social purposes” (Coppock and Ferri, 2013, pp.3).

Figure 2.21: Persuasive Games/Urban Games
a./b. An urban gamer playing "Can You See Me Now?" (Blast Theory)
b. Pokemon Go

Further terms are, the work of Bourriaud (2002) and the term, ‘Relational Aesthetics’; “A set of artistic practices which take as their theoretical and practical point of departure the whole of human relations and their social context, rather than an independent and private space” (Tate, 2017e, para. 2). Secondly, ‘Tangible Interaction’ (Hornecker and Buur, 2006) a system that relies on “embodied interaction, tangible manipulation, physical representation of data and embeddedness in real space” (pp.1.). Thirdly, ‘Environments’: “An alternative term for installation art; environments are mixed-media constructions or assemblages usually designed for a specific place and for a temporary period of time,” (Tate, 2017f, para.1) associated with the artist Allan Kaprow.

2.4.6 Summary

Thus far the playful interactive experience cannot be fully placed within existing genres of art and design, existing definitions point towards elements of the playful experience yet each encompass their own specific aims or objectives thus setting them apart for the aims of this investigation. It is deemed important for the context of this research to position the playful interactive experience among the wider setting of art, design and academic theory. Kaptelinin and Nardi (2006) remind us that "human beings are shaped by culture [...] typically they act with or through other people" (pp.37), prompting reason why interactivity with the social realm and public space is so vitally important to our skills of communication. This can be linked back to the views of Durkheim (1997) and his comment that when our communication skills decline, so to do our social bonds.

Concepts of play bring about the ideas of fun, pleasure, creativity and emotional connections which are rather more connected with the definitions of experience as the research stands. Candy and Edmonds (2011) point out that social interaction in the humanities is a field which is completely overflowing, but interactivity in the arts is still an emerging aspect or field. Bekker, Sturm and Eggen (2010) strongly advocate that through a playful approach we can take on any subject matter with a playful attitude, as such we also have the notion of a highly motivating outcome of experience.

This Literature area has revealed that interaction can be characterised as a reciprocal action or influence between two elements, when we come across a playful interaction we intend to engage in an activity for enjoyment, fun or to encounter an experience but play must be spontaneous and subconscious (Brown, 2010). We need social play to belong, the 'Volkswagens Fun Theory' suggests that "human behaviour has no rules, it has multiple dimensions and infinite combinations," (2009, para.1) considering that fun is the easiest way to change people's behaviour for the better. For Costello (2011) "the tactility and physicality of the interaction is pleasurable and ambiguous" (pp.185).

"Playfulness does not simply mean mocking reality in a frivolous way. The modes of playful engagement range from improvisation to analytical research; this can be sensual, emotional or intellectual" (Zimna, 2014, pp.155/6). Zimna in line with Jordan (2002); Norman (2004); Costello and Edmonds (2007) and Her (2010, 2014) advocates that playfulness of interactivity can in fact create dialogue and introduce the notion of social change.

2.5 Conclusions

A range of problems with contemporary public spaces have been outlined during this review of literature thus prompting that a renewed thinking is required for design of the future. Current theorists promote that the designer must think of new public spaces as temporary stages for the promotion of public life which is in constant flux. In order to counteract these problems this investigation leans towards views of Whyte (1980) and the theory of Triangulation, which in recent theory is advocated by Stevens (2007) and Whybrow (2010). Triangulation suggests two men on the street must be given a catalyst to interact, in short activities or experiences to provide incentive for communication. Furthermore, 'activities,' 'fun uses' and 'active participation' were deemed key factors in the creation of experience in public space.

Experience is produced, it cannot just be, the job of the designer is to create and promote experiences which lead to pleasure and emotion in surprising ways, thus increasing users' spatial and social interactions. The 'urban playground', suggested by Whybrow (2010) promotes 'play' as a medium to integrate and negotiate the city, serving to produce 'place' for the individual. If play is the required experience, this experience in turn generates positive emotions "critical to learning, curiosity, and creative thought" (Norman, pp.12).

In the context of this thesis, it was vital to understand key contemporary theories relating play, as well as playfulness in adulthood to comprehend how it may have a greater effect among today's multifaceted society. Social norms in adulthood remove us from playing freely and instinctively, instead adults tend to opt for more serious games. Brown (2010) suggests that to be more playful we should "expose ourselves to play" (pp.210), currently this is not possible if our contemporary lives do not allow spontaneous and unexpected play out of our social norms.

As one universal definition of play is difficult for major researchers to pin point it may be concluded that play cannot ever be fully defined as the boundaries and contexts are continually changing due to the user, spatial setting, game, type of play and type of players. Furthermore, it is fair to conclude that play can be; humorous, cultural, creative, social, experimental, and suitable for all ages, universal, ambiguous and personal.

Based on literature outcomes this research aims to create a model for the creation of increased social and spatial interactivity within public space. With countless publications advocating digital interactions as valid methods for increased interactions, this provides gaps for the approach of low technological techniques of playful playmaking for the future. At this

stage it can be summarised that the terms interactive and interaction have formed meanings which do not necessarily suit all of their definitions. Brown (2014) notes that participation which we hear so regularly in the art world is "grouped under 'interactivity' but as it is used so widely in various situations there is no-one-size-fits-all definition" (pp.4).

It may be suggested that when designing for playful interactions the issue of invitation to participate is a crucial element. Referring to Candy and Edmonds (2011) the gallery as a testing site is viewed as a 'living laboratory.' It is interesting to draw concerns to the nature of data collected within a 'living laboratory' within the scope of this research. To draw participants in it must be within an invited context, resulting in a potential for subjectivity. The author proposes that placing this research within a 'gallery' or strictly invited urban exhibition will not achieve the aims of the enquiry as an invited context may not appeal to the casual observer. Invitation aims to be through the playful properties of the playful interactive experience itself.

The investigation tends to disagree with the views of Sicart (2014) and Zimna (2014) that role-playing and planned games are a real commitment by the player to be involved rather than spontaneously engaging. Can true reactions be shown if a participant group is chosen? Possibly the notion of spontaneous engagement is the missing link within this approach to playful interactivity. Consequently, the researcher agrees further with the 'ta-da' moment (Grimaldi, 2009), thus promoting instinctive reactions to a situation. It is suggestible that the addition of pleasure related design outcomes will result in a satisfying experience, thus leading back to increased usage and sociability. Relating back to Pine and Gilmore (1999) "when he buys an experience, he pays, spends time enjoying a series of memorable events that a company stages – as in a theatrical play – to engage him in a personal way" (pp.2).

This review of the literature area has explored various concepts for participatory, interactive and public art works to determine a genre which best suits the suggestions of the playful interactive experience. Each definition hints towards the aims of the playful interactive experience but thus far none are an ideal match. In summary the continuation of this research project will strive to fully define the playful interactive experience placing it among the current genres and in academic context. Active participation, increased sociability, creativity and positive follow on actions are the intended outcomes of the playful experience, acting as 'catalysts' inviting play permission, can an overall feeling of place be established?

Chapter 3

Research Methodology

3.1 Introduction

Thus far the investigation has aimed to understand current research, debates and arguments surrounding public space, play, playful interactions to formulate methods to enhance perceptions and experiences within public space. The general review of literature concluded that many public spaces are underutilised, thus allowing them to become forgotten, lost or overshadowed by commercial areas. Research suggests that play as a spontaneous entity contains the power to spark creativity, and re-engage us with our surroundings.

Outlined by Edmonds (2010) many researchers in the specific field of interactive design are now looking for answers in Human Computer Interaction (HCI) to bridge the gap between art and interactive works. This thesis aims for low technological approaches to design solutions, to fulfil the aim of taking the public a spontaneous encounter with play through the enhancement of traditional play methods. Thus research turns in favour of the views of Lefavre and Doll (2007) in the implementation of play spaces within the city, whilst additionally focusing on the views of Whyte, (1980); Francis, (2003), Gehl (2010) Carmona (2014a) in relation to placemaking. Play theorists Glynn and Webster, (1992); Guitard et al, (2005); Van Leeuwen and Westwood, (2008); Brown (2010); Sicart (2014); Zimna (2014); Proyer, (2012, 2013, 2016); Kanhadilok and Watts, (2014); and Henricks, (2015) have pointed out the need for play in adulthood as well everyday life thus when discussing design for people we need to employ methods which reach the general public.

To discover principles of how to create inclusive, well designed playful environments for the public various stages of methodology are employed. The methodology within this research is viewed as an evolutionary process, developing one upon the other to create informed, professional and academic outcomes. The nature of the methodology is the merging of three fields necessary for the scope of research. As a result multi – methods are employed to bridge gaps between disciplines and triangulate research findings.

There are four sections within this chapter: section 3.2 explains the framework for constructing the playful interactive experience and framework for interaction analysis. Section 3.3, discusses a multi-method approach to design research, outlining three major stages for framework: development, implementation and evaluation. Furthermore each section provides the motivation and protocols for the selected quantitative and qualitative methods data collection, allowing insight into: research for design, public questionnaire

surveys, professional interview processes, observational behavioural studies and focus group feedback. An overall summary appears in section 3.4.

3.2 Frameworks for Constructing and Evaluating the Playful Interactive Experience

Contemporary playful designs answering investigation aims suggest that the playful experience as seen in figures 3.1 and 3.2 have the potential to be a participatory design which all of society is free to be involved, allowing passersby to impulsively, partake in or simply observe an out of the ordinary, ephemeral experience. The playful experience allows the general public to participate in an experience which may have previously been implemented into a gallery or invited situations. It is usually one of humour and play permission which unexpectedly intervenes with the usual setting aiming at heightened user experience of everyday surroundings.

Thus far the 'playful interactive experience' does not entirely fit existing genres of interactive art and design. Currently, many urban interventions are aesthetically pleasing, but not tactile, tangible installations require purpose and public art monuments lack invitation. Furthermore, the playful interactive experience is not aimed at a political agenda or activist intention as in many methods of street art or DIY Urbanism. Prior Research (Merry, 2009) established that additional investigation was required to produce a method for playful interactions as a strategy for experience creation, thus forming the basis of this study. This investigation aims to fit the playful interactive experience into theoretical context, outlined within the review of literature. Place-makers advocate fun and activities as a prerequisite for placemaking; the playful interactive experience aims to be a viable solution within the wider context of placemaking, positioning it as a potential subsection of the 'placemaking' technique.

Figure 3.1: Karl Marx Bonsai, Plastique Fantastique, Berlin, 2008

Figure 3.2: Swing with me; Imagine the Roads Festival, Nicosia, 2015. *(Personal Images)*

A principal aim of the investigation is the formation of frameworks acting as tools for fellow designers in the creation, understanding and evaluation of playful and interactive experiences. Frameworks have been defined as:

(a.) *'Constructing the playful interactive experience: a framework for increased sociability, personal creativity and experience in public space,'* aiming at design artefact creation for experiential output.

(b.) *'A framework for interaction analysis.'* Acting with two pivotal roles, firstly as a tool for designers to comprehend various levels of user interaction and secondly as a method aiding data collection and observational analysis.

It is essential that models are aimed at experience production of a playful environment, and not aesthetic outcomes (Waltz, 2010) as to give freedom to the designer. The utilisation of a framework enables others to concentrate on the site in hand rather than conducting research into the fundamentals of a proposed design solution. As put forward by Croft (2007) a framework is "a set of tools, libraries, conventions, and best practices [....] that can be reused" (Para. 2). Frameworks aim to give designers and planners pre-defined principles for experience creation which if followed correctly allows safe playful experiences, thus increasing sociability and sense of place. The expected outcome permits designers to focus on tasks and requirements unique to a site, rather than 'reinventing the wheel' each time around.

3.3 Multi – Method Approach to Design Research

The previous section sets research goals, outlining framework models for onward investigation. When selecting an appropriate approach to research design it was important to consider research aims and objectives as well as participant and site selection. Creswell (1994) outlines two separate routes of qualitative and quantitative approaches, concluding in an identification of a multi method approach for the formulation of a triangulated research outcome. In the case of this investigation a multi method approach was deemed appropriate. Following Yin's (1994) recommendation a combination of different strategies will be used at different stages, to triangulate findings. The increased relevance aims to reach a level of academic conclusion. As suggested by Saunders et al (2003) utilising multi methods allows two significant advantages:

- To gain different results for varying objectives, thus allowing confidence that the research outcome will address the most significant issues.
- To ensure that collected data is actually displaying what you believe it is telling you.

The general public are the subject when creating uses in public space; they have no direct invitation to engage in interaction except spatial offerings or when events occur. Within this investigation play permission aims to be encountered as a surprise, thus it is paramount to ensure safety and personal rights while including the general public. The submission of the ethical form aims to ensure the correct permissions are obtained when conducting public research. Furthermore play permission as active participation falls heavily upon design outcomes. Canter, (1977); Creswell, (2004) and Knox, (2011) advocate that "designers are officially, the modifiers and creators of physical forms [...] their task is to manipulate the physical attributes in such a way as to draw you upon, or create" (Creswell 1994, pp.161/163), thus highlighting the importance of a correct methodology for onward transfer post investigation.

Playful interactive experiences aim to increase social and spatial interactions in order to: first, encourage spontaneity as a catalyst for interaction, second, utilise otherwise lost spaces, third, allow freedom for the creativity of users and lastly, enhance a sense of place. Once a set of best practice is compiled through secondary research and expert opinions, it is necessary to employ design artefacts as tools for evaluation to analyse responses, impacts and users change in perception.

To evaluate said artefacts, widely documented and recognised methods of quantitative and qualitative data collection in the form of interviews, questionnaires, focus groups and observational studies are employed informing the research with statistical data output, public opinion and insight into user behaviour. Furthermore data findings indicate gaps in research and framework amendments. The aim of utilising commonly recognised methods of quantitative and qualitative data collection within a multi method approach allows the study to address several significant issues simultaneously. As stated in the introduction of this investigation, this research has been approached from an interdisciplinary perspective where design and artistic installation, merge to meet with the social science, thus further highlighting the necessity to approach methodology from varying perspectives in an evolutionary manner. To allow research approaches to be applicable to the general public whilst creating suitable techniques for fellow designers the following methodologies have been employed:

a.) A Consensus of Secondary Research Findings:

Chapter 2 provided a review of literature supporting the investigation. Conclusions benchmarked existing theory for playful interactions within public space for onward exploration within the thesis. In order to test existing principles a design analysis of selected playful interactive designs was conducted (See section 4.4 and Appendix 4.3). Eight projects were chosen due their playful and engaging characteristics, encouraging active participation whilst simultaneously suggesting a tactile nature, thus fitting the aims and objectives of the research. The eight designs were evaluated to assess how many characteristics of playful interactions and place creation they possessed (See Appendix 4.4) in order to amend existing principles for onward testing.

b.) Design for Research:

Stage 1 (Framework Implementation): Twelve participants split into two groups of six persons were formed to produce playful design artefacts through a design for research methodology (See section 3.3.1). An open call to 2nd year interior design students of Frederick University invited students to participate in a project entitled ‘let’s intervene’ (Appendix 3.1). The ‘let’s intervene’ project employed 1st stage frameworks for the construction and analysis of the playful interactive experiences, to provide ‘tools’ for

research testing (See section 5.3). Applicants presented their portfolios and proposed design outcomes based upon the project brief, these were reviewed by the author and 3rd supervisor; candidates were chosen to ensure a suitable standard of design and competence.

Stage 2 (Framework Evaluation): To assess research findings large scale playful design projects were produced and evaluated to inform final conclusions (See section 6.3). Thirteen designers including the author attended a workshop specialising in inflatable structures run by Urban Gorillas at the University of Nicosia, Cyprus (See section 3.3.1.1b). Research concentrated on the evaluation of two sites for the design constructions; sites were selected due to their relevance to the principle of accessibility as displayed in the framework for constructing the playful interactive experience (See section 6.2 and Appendix 3.11) the implemented designs fitting the framework for the playful interactive experience brief were designed to integrate within the sites.

c.) (Designer) Focus Group Feedback:

To assess the legibility and appropriateness of frameworks, twelve participants from the let's intervene project were personally invited to participate in a feedback focus group to share their ideas and experience of the project (See section 3.3.3) allowing for framework amendments. Questions focused on the legibility of the framework, its categories and utilisation, the overall design process and its implementation as outlined in Appendix 3.4a, results can be found in Section 5.4.4 and Appendix 5.4.

d.) Professional Interviews:

Five face to face professional interviews took place during the course of the investigation, two within the field of social psychology and adult playfulness and three with practitioners of playful interaction design (See section 3.3.2.1 and Appendix 3.3 for further details). The selection process determined suitable experts among the fields, interviewees were contacted privately through email to invite their participation and arrange interview days and times. The first interview with Antonis Mitsingas (Social Psychologist) was selected due to his expertise in the field of social interaction and proximity to the let's intervene events. Antonis was interviewed prior to events (See section 4.3.1 and Appendix 4.1) and re-

interviewed post event to assess the impacts of the playful interactions (See section 5.4.3/ Appendix 5.3).

Practitioners Kurt Perschke (Creator of the Red Ball Project, See sections 4.3.2 and Appendix 4/2) and Marco Canevacci (Founder Plastique Fantastique, See section 6.3.1 and Appendix 6.1) were identified as leading designers in the field of playful interactivity within public space and were selected to gain professional opinions on the notions of playful interactivity within their works.

The final interview with Theopitsi Stylianou-Lambert (Published photographic interaction expert and practitioner) was selected to understand the levels of photographic interactions observed with implemented designs (See section 6.7.2 and Appendix 6.8). Overall the interview process provided the investigation with validation and reasoning for the occurrence of results collected through other methodologies of the study for a triangulation of results.

e.) (Public) Questionnaire Surveys:

Stage 1: The first stage questionnaire (Appendix 3.6a) took place during the implementation of the let's intervene project. 81 members of the general public within the vicinity of the implemented designs were randomly selected and asked by the author or member of the design group to fill in a questionnaire by hand. The questionnaire aimed to gain statistical data and opinions relating to the implemented designs in order to assess successes or failures for framework amendments (Refer to sections 3.3.4, 5.4.1 and Appendix 5.1 for further details).

Stage 2: The second stage questionnaire (Appendix 3.6b) took place during framework evaluation. 152 members of the general public within the vicinity of the GUL playful designs completed their answers. The author and members of Urban Gorillas randomly selected members of the public to answer onsite interview style questionnaires filling in their questions on an electronic tablet. The questionnaire aimed to gain statistical data and opinions relating to the implemented designs in order to assess successes or failures for framework evaluation and final amendments (See sections 3.3.4, 6.6.2 and Appendix 6.6 for further details).

f.) Observational Studies:

Observational studies within this investigation assed user behaviour to gauge the level of impact achieved by a playful interactive design. Observations studied user behaviour in relation to the framework for interaction analysis (see section 4.5), utilising data tick charts and photography (See section 3.3.5 and Appendix 3.9). Observations were split into 3 stages over the course of the research:

Stage 1: observed, counted and photographed the interactions of 154 members of the general public within the vicinity of the implemented designs, recording their levels of interactions with the playful artefacts implemented during the lets intervene project.

Stage 2: observed, counted and photographed pre-design interactions and actions of members of the general public within selected sites for the GUL project. During week 1, 2241 users were recorded and week 2, 2404; see sections 6.4.2, 7.3.2.1 and Appendix 6.3, 6.4, 6.5, 7.2 for further details. During stage 1 and 2 observations were conducted onsite and data recorded in real time.

Stage 3: observed, counted and photographed members of the general public within selected sites during design implementation allowing for data comparison. An increase to 3854 members of public were recorded within the vicinity of the implemented designs, see sections 6.6.1, 7.3.2.1 and Appendix 6.3, 6.4, 6.5 and 7.2 for further details and data comparison. During stage 3 due to the prediction of increased users, data was collected utilising video recording for later watch back and transcription.

g.) (Public) Focus Group Feedback:

Focus groups were employed to evaluate opinions on public space design and usage. Focus groups took place at two stages, pre and post design implementation in order compare the level of impact and change in public perception (See section 3.3.3). Pre-design participants were invited through an open call within Frederick University, at both the Nicosia and Limassol campuses. Twelve participants answered the call in Nicosia and Eight in Limassol, all members of the public who responded were selected. Due to the distance between the campuses two focus groups took place utilising the same questions (Appendix 3.4), results can be found in section 6.4.1 and Appendix 6.2.

Post design all members of the pre design focus groups were personally invited to attend the feedback session, six participants attended. Discussions surrounded, their overall

opinions, perception of the sites post event, levels of interactions and playfulness (Appendix 3.4) in order to triangulate public opinion with other data collection methodologies, findings are displayed in section 6.7.1 and Appendix 6.7.

The main body of this investigation as seen in figure 3.3 is split into 3 significant categories: framework development, framework implementation and framework evaluation.

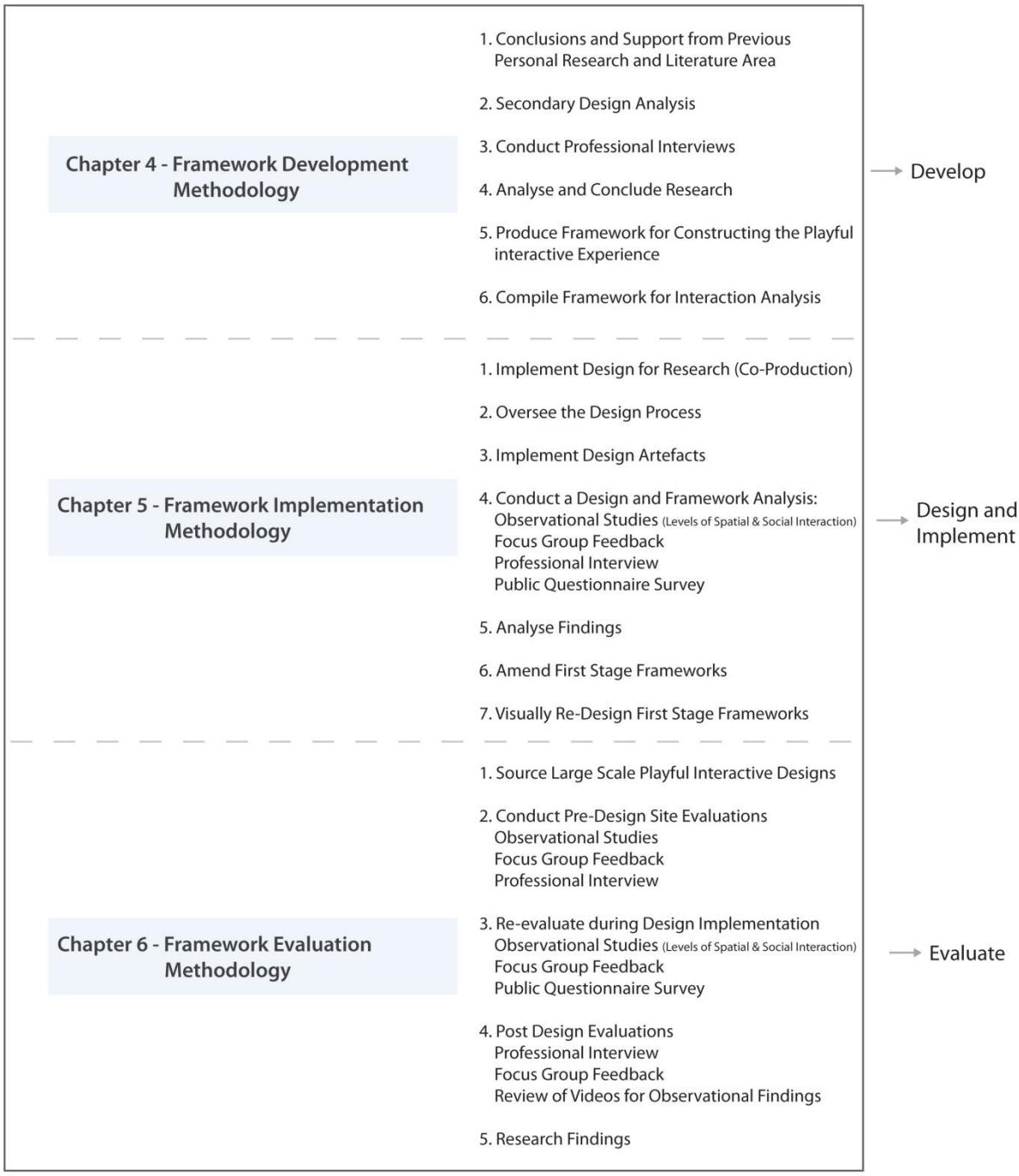


Figure 3.3: Framework Methodology

(a.) Framework Development Methodology sets out to create a basis for the study and onward testing. Support from previous personal research and a review of the literature area is collaborated with conclusions from expert interviews to create a set of best practices for playful experience design in the public realm. Furthermore an analysis of projects encompassing engaging characteristics narrows down the best practices to recognise principles most common within playful city designs. A straightforward method answering yes, no or N/A notes if principles are present, the mode is used as a denominator in eliminating parameters. The results gained at this phase of the investigation form first stage frameworks.

(b.) Framework Implementation Methodology puts in to practice the models set out in the section of framework development. 'Research for Design' is employed during this section providing tools for research testing. Professional opinions and designer feedback assess the impact and strategies towards the playful experiences whereas a questionnaire survey provides public opinion. Furthermore an observational approach assesses users' levels of interaction.

(c.) Framework Evaluation Methodology provides an assessment of research findings (Frameworks). Through the evaluation of large scale playful designs implemented within the urban realm further multi methods are employed. Advanced observational studies assess user behaviour, pre and post design focus groups as well as an onsite questionnaire survey gains public opinion. Finally professional feedback interviews support public opinions and provide reasons for observed actions. Results will be triangulated for framework amendments and final investigation conclusions.

The following section outlines each method independently, displaying the protocol of each stage and interrelations to one another.

3.3.1 Research for Design

Laurel (2003) suggests in the current field of design research to conclude with a conceptual design is not enough to satisfy academic conclusions, prompting the author to employ real life implementations into the public realm. In agreement Merry (2009) concluded that a re-design at a conceptual level required real life testing as a future recommendation of the research project. Candy and Edmonds (2010, 2011) summarise that the way forward in design research is to promote 'practice based research' and the 'practitioner as the researcher.' "Design exploration often seeks to test ideas and to ask 'what if?' – but also to provoke, criticize, and experiment to reveal alternatives" (Fallman, 2008, pp.8). Furthermore, Carmona (2014a), promotes practice based research through design implementation and evaluation. Therefore putting into practice the framework for constructing the playful interactive experience is essential to the investigation.

In line with Whytes (1980) theory of triangulation, advocated by Stevens (2007) and Whybrow (2010), triangulation as a conversation starter is a concept deeply rooted in the outcomes of the implementation of playful 'art' or 'design' as a method for creative engagement. This research takes the approach of playful design artefacts becoming stimuli for social interaction, the primary aim being the changing events caused by design rather than the evaluation of the design object itself. In this case employing design artefacts becomes a methodological tool for the outcome of academic data collection and conclusions. In line with Bekker, Strum and Eggen (2010) a research for and through design approach means that "scientific knowledge through cycles of creating and evaluating" (pp. 386), allows insight into the specific field of playful interaction for the intention of social interactions.

The 'research for design model' based on the work of Scrivener, seen in figure 3.4 is a common approach taken during design research. It acts as a method to comprehend, produce and assess design artefacts. Scrivener (2011) noted that his model is aimed at 'research for design', where a typical model is carried out for aesthetic or experience output. Within this investigation a research for design methodology is used to: first, produce playful events (tools), second, demonstrate successes and failures of current framework suggestions and third, allow for conclusions for framework amendments. This research takes the model one step further producing an outcome which is more than the design objects themselves; it is the evaluation and production method.

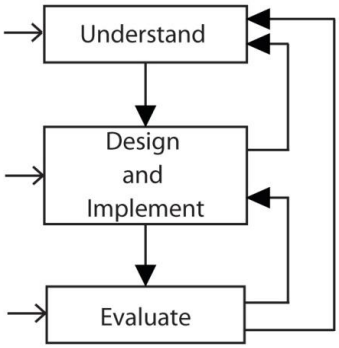


Figure 3.4: A Typical research for design model (Scrivener, 2011)

The author recognises that a large amount of bias would be placed upon any design outcome produced only by the researcher within the context of this investigation. As such it was fundamental to employ others to utilise frameworks and produce the playful designs. Fallman (2008) argues that an interaction researcher should be an integral part of the design team, not merely the observer. Yet, the author wished to test the legibility of framework suggestions for its onward transfer to the wider design field, aiming to assess the current form for onward amendments. Consequently, the author would act as the 'director' during framework implementation.

A collaborative approach to design construction is viewed in two ways: first the collaboration of designers and second the cooperation of the designer with the general public (Whyte 1980; Harvey, 1996; Worpole, 2000; Creswell, 2004; Gehl 2010). Collaboration has also been referred to as participatory design (Sanders, 2002; Sanders and Stappers, 2008). In particular, community driven design as approached by Montagu (2007) is encouraged from the outset of any public based project. Designers tend to be biased towards aesthetics; through the utilisation of skills during implementation the general community is encouraged to participate and to become part of the implementation.

3.3.1.1 Protocol

(a.) Co-Production

This research leans toward co-production with undergraduate designers, who in turn are also users of the spaces of re-design. Figure 3.5 displays co-production methodology of research for design based on Schrivner (2011), demonstrating the co-creative advantages for both the PhD research and the undergraduate design student during this stage of the investigation.

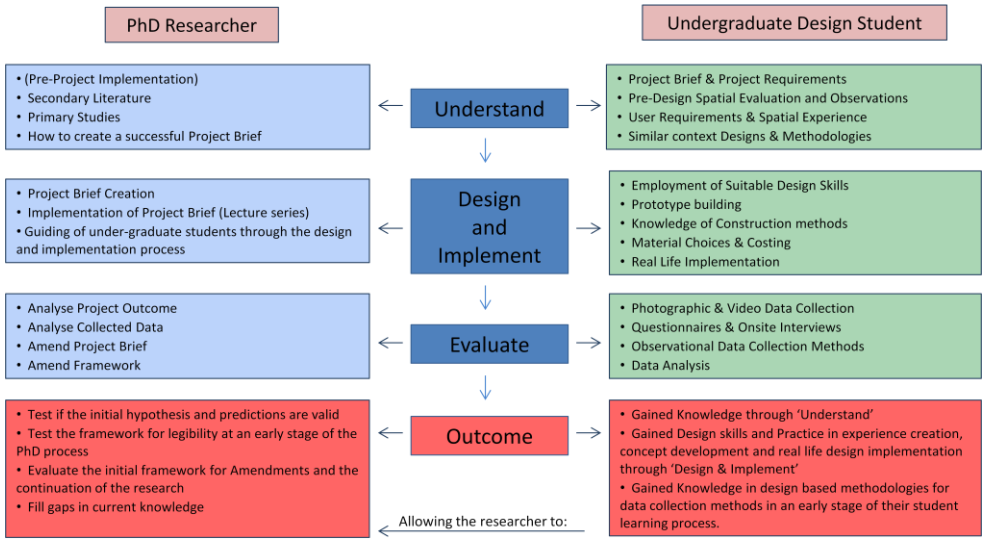


Figure 3.5: Co-production methodology for the Phd Researcher and Undergraduate Design Student, displayed at the Learning and Teaching Conference, Student transitions: Pillars of learning. (Graaff and Merry, 2015)

Discussed by Graaff and Merry (2015), the reciprocal method of co-creative learning, allows for the postgraduate researcher to gain required outcomes for design testing. In relation to undergraduates they are able to gain in class learning along with real life design implementation at an early stage of their academic careers, forcing them to be aware of construction methods, material choices, spatial observations and the construction of the experience of space. As an academic instrument it permits students to enhance their knowledge and conceptual skills in how experience and emotions are equally important design tools as the final aesthetic outcome. Significantly the knowledge that students would implement a real life project on display intended to witness encouragement and enthusiasm for the project.

The production of design artefacts through framework suggestions would be implemented during March 2013 when collaboration with the Fine and Applied Arts department of Frederick University, Nicosia, Cyprus was established. In conjunction with interior design students the design project: 'Let's Intervene' (Appendix 3.1) was to be employed. The project aims to utilise frameworks to produce designs that would transform transitional and lost public spaces into places of memory and experience. Furthermore designs would become tools for first stage framework evaluation and amendments. Students, in groups would follow the design brief to develop and realise playful experiences with the author acting as the director of the project, available to aid physical design construction and any further practical needs of the design groups.

Referring to Candy and Edmonds (2011) the gallery was highlighted as a 'living laboratory.' It is important to draw concerns to the nature of the data collected within a 'living laboratory.' In the context of this research a gallery setting does not achieve the aims of the project as the invited context will not appeal to the casual observer. Within current events or activities in pubic space Whybrow (2010) has drawn attention to "organised urban-game playing" and a sense of "ever-growing plethora of creative engagements – often highly skilled – occurring in small-scale pockets of activity within city spaces" (pp.110-111). This investigation aims to evaluate organised events which take place within a non invited context in free and open yet underutilised public areas.

(b.) A Collaborative Approach

Following an assessment of co-produced designs and the re-definition of frameworks, to evaluate research findings the author required additional cooperation. During November 2014 collaboration began between the author and Urban Gorillas NGO[12]. The collaborative approach followed a methodology for evaluation output. Urban Gorillas are a non-profit organization set up in 2013 with aims of building community participation through creative activities in cities, in order to enrich social sustainable development of urban life. Collaboration began during the Green Urban Lab[13] (GUL) project, the GULs main goal was the regeneration of public spaces in Cypriot cities aiming to raise awareness of the lack of use of public space in Cyprus. A two week workshop into pneumatic structures allowed framework parameters to be benchmarked against designs intended for a larger city setting. Produced artefacts and their impacts were to be analysed to evaluate research findings (frameworks).

[12] Urban Gorillas are a non-profit organization set up in 2013 with aims of building community participation through creative activities in the cities, in order to enrich social sustainable development of urban life.

[13] The GULs main goal was the regeneration of public spaces in Cypriot cities aiming to raise awareness of lacking use of public space in Cyprus

3.3.2 Expert Interviews

An interview is “a conversation between interviewer and respondent with the purpose of eliciting certain information from the respondent” (Bell, 2005, pp.157). During any participant interview, there are codes and protocols which must be adhered to. Ethical guidelines set by the ethics committee take place under the submission of an ethical form as such the interviewees then must give consent (Appendix 3.2). The interview was chosen as an “interviewer can follow up on ideas, probe responses and investigate motives and feelings which a questionnaire can never do” (Bell, 2005, pp.157).

3.3.2.1 Protocol

Interview subjects would be experts in related fields, as a research method, findings would fill gaps in current research and provide knowledge to further form and structure the frameworks see Appendix 3.3. Furthermore expert feedback aims to support findings of other research methods giving reasons for such results. As suggested by Creswell (1994) all interviews were to be face-to-face so as to keep control over the questions and allowing the interviewer to be direct. A series of expert interviews will be conducted throughout the research process, each with individual aims and objectives. Furthermore each interview would follow the same methodology as seen in figure 3.6.

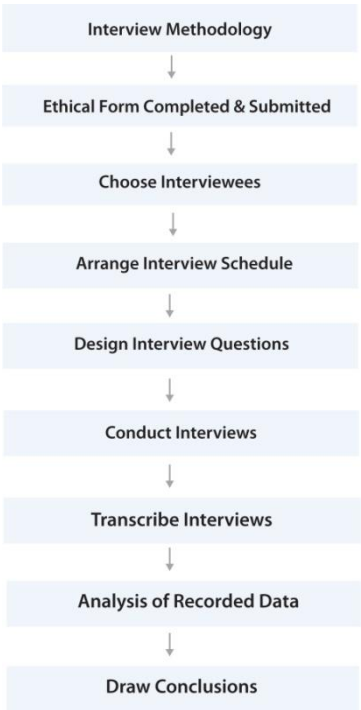


Figure 3.6: Interview Methodology

Table3.1 displays the interview stages and the role each participant played within this research. All interviews follow guidelines of being 'semi-structured.' As put forward by Saunders et al (2003) the semi-structured interview allows the researcher to have a list of questions or themes, but allows the interview to flow on a conversation basis. Having few structured questions derives from the aim of being open – ended to prompt further discussions rather than simply leading questions (see appendix 3.3). It is important to recognise that the semi-structured interview can have a level of generalisation (Saunders et al, 2003). To counteract this generalisation results gained will be used in coordination of other research methods.

It is important to ask all interviewees permission to record the interview via the method of a digital voice recorder to avoid note taking during the interview process so as to concentrate on the interview and further questions. Additionally it aided the transcript of the interview where the knowledge gained could be reviewed.

Table 3.1: Expert Interview Overview

	Interview 1	Interview 2	Interview 3	Interview 5	Interview 6
Interviewee	Antonis Mitsingas	Kurt Perschke	Antonis Mitsingas	Marco Canevacci	Theopitsi Stylianou-Lambert
Profession	Social Psychologist	Creator of the Red Ball Project	Social Psychologist	Founder Plastique Fantastique	Photography Researcher
Research Stage	Framework Development (Chapter 4)	Framework Development (Chapter 4)	Framework Implementation (Chapter 5)	Framework Evaluation (Chapter 6)	Framework Evaluation (Chapter 6)
Aim(s)	To confirm and enhance the notions of play and playful interactivity	To understand the fundamentals of a successful Playful and Interactive Experience	To provide the investigation with professional feedback on the Lets intervene events	To gain professional opinions on the notions of playful interactivity with inflatable designs	To understand the levels of photographic interactions observed

3.3.3 Focus Group Feedback

Focus groups, similar to interviews, allow face to face control over questions (Creswell, 1994). Moreover a focus group provides important insight into human behaviour, in a naturalistic flow which is not structured as in a questionnaire survey (Fern, 2001). Laurel (2003) points out the evolution of the focus group within the specific field of design research, she outlines the various forms of focus groups available. It is important to keep in mind that the focus group is not related to personal detail and conversations should not be of a sensitive nature (Laurel, 2003).

3.3.3.1 Protocol

Focus groups provide a methodology of delving into the thoughts of the general public on their opinions towards their spaces. In line with expert interview aims the feedback of focus groups within this research will be utilised as a supporting element to observational and questionnaire findings, thus allowing a triangulation of results for why a specific occurrence took place. This research conducts a series of focus groups as seen in table 3.2 and appendix 3.4, adopting two versions: first, the traditional focus group where 10 -12 designers focus on the use and implementation of the frameworks for creation and analysis. Second: the mini focus group, where a small gathering of members of the public are able to have in depth conversations about subject matters related to public space and implemented designs (Laurel, 2003).

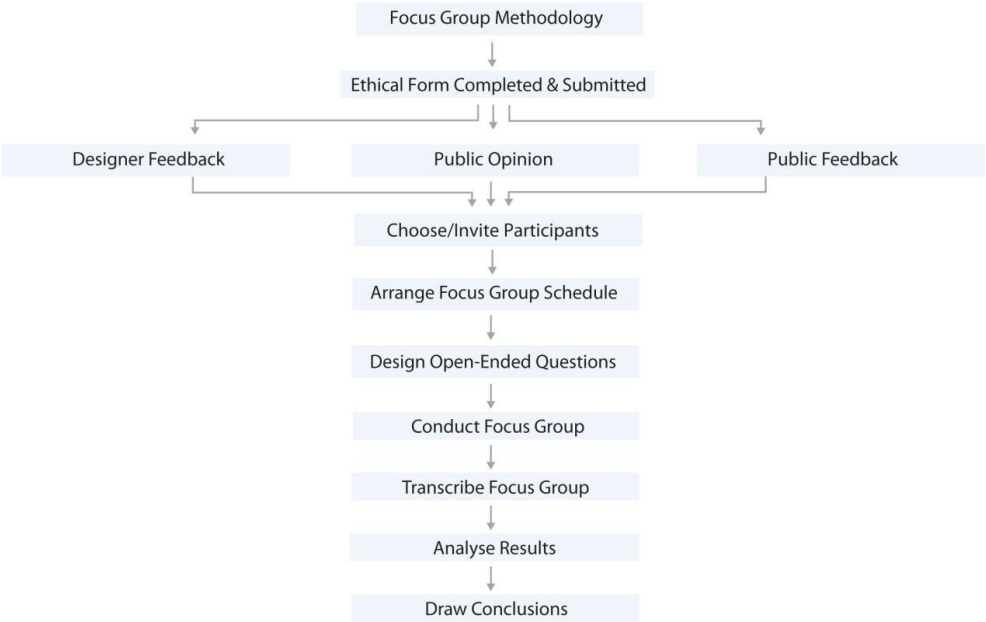


Figure 3.7: Focus Group Methodology

The focus group nature of an open discussion would allow the researcher to understand reasons why certain interactions occurred in order to triangulate research findings. Focus group methodology followed the process displayed in figure 3.7 where participants were invited, a schedule was formed, questions designed and subsequent to discussions results were transcribed and analysed.

Table 3.2: Focus Group Overview

	Focus Group 1	Focus Group 2	Focus Group 3	Focus Group 4
Focus Group	Designer Feedback	General Public	General Public	General Public Feedback
Type	Traditional	Traditional	Mini	Mini
Number of Participants	12	12	8	6
Aim(s)	Develop and amend framework for creation	Gain Public Opinion on: 1. Current Consideration of Public Space 2. Frequency of usage and interactions 3. Events 4. Playfulness and Interactivity 5. Perception of the current sites	Gain Public Opinion on: 1. Current Consideration of Public Space 2. Frequency of usage and interactions 3. Events 4. Playfulness and Interactivity 5. Perception of the current sites	Gain Public Feedback on the impact of events
Research Stage	Framework Development (Chapter 3)	Pre – Design Framework Evaluation (Chapter 5)	Pre – Design Framework Evaluation (Chapter 6)	Post – Design Framework Evaluation (Chapter 6)

(a.) Framework Implementation: Designer Feedback Focus Group

Designers employed during the 'let's intervene' project were briefed that a discussion would take place post design to receive feedback on the design process, feedback on frameworks, final designs, implementation and data collection methods. They were asked to take note of the process in order to conduct a focus group style discussion post event. Similarly to the interview aims it was comprised of open ended questions to prompt discussions in order to:

- Develop and amend framework for creation
- Evaluate the design process
- Give feedback on the implementation process
- Follow up on data collection methods
- Give conclusions and recommendations

(b.) Framework Evaluation: General Public Focus Group, Pre-Design

To gain further knowledge on current usage of public spaces within the context of the investigation and site selections of the GUL event three focus groups were conducted 2 pre-event and one post-event. Pre-design, open ended questions which spanned 5 major themes were devised for discussion during the process:

- Participants definition and consideration of Public Space
- Frequency of usage and interactions
- Events within Public Space
- Playfulness and Interactivity
- Perception of the current sites

Aiming to understand current public opinion of public spaces, their usage and thoughts towards an implementation of design, questions were devised to be leading, prompting further discussions and suggestions. Once focus groups were conducted, data would be transcribed and analysed to gain further knowledge to inform the research process.

(c.) Framework Evaluation: General Public Focus Group, Post-Design

A post design focus group would gain feedback on the implemented designs and the events as a whole. Participants of previous focus groups would be invited to the events and subsequently re-invited to participate in a follow on session; questions would be designed to gain feedback in relation to:

- Overall opinions on the events
- The perception of the sites post event
- Interactions with the inflatables and others
- Level of playfulness witnessed and experienced

3.3.4 Questionnaire Surveys

The overall aim of the questionnaire survey is to gain knowledge from public opinion surrounding their experiences of playful interactivity, supplying the investigation with valuable comparable and suggestive data. In order to: Identify problems with frameworks, gain additional comments to bridge gaps in current findings and assess the impact of a playful and interactive design.

Saunders et al (2003) indicate that "many people use questionnaire data collection without considering other methods" (pp.281), continually noting that questionnaires are not the best source for explanatory research they are better used when linking them to other sources of data collection. Within this research the multi method approach allows the author to cooperate results for the requirements of this investigation.

3.3.4.1 Protocol

In a public study, an onsite questionnaire allows the researcher to gain public opinion surrounding spatial experience. It would be difficult to later find people who had been present without knowing who participants were (PPS, 2000). Additionally in the context of this research it was seen as important to obtain opinions while the experience was fresh in the participants' minds so they could answer instinctively. To ensure accurate results it was important to create a legible and acceptable questionnaire to the desired subjects. Bell suggests, "the more structured question is easier to analyse" (2005, pp. 137). Previous research concluded that a questionnaire for the general public should:

a. *"Contain background or leading questions to set the scene*
b. *Take into account wording:*
    - *Removal of technical terms*
    - *Show no ambiguity*
c. *Consider Visual Layout as to invite participants to be engaged:*
    - *Not too long or complicated*
    - *Single Paper Output (Utilise 2 Columns)*
    - *Simple Font selection"*

(Merry, 2009, pp.40)

As suggested by Jankowicz (2005) a careful statement of the research intent aids cooperation (Appendix 3.5/7). Once an establishment between the designer and the respondent can be gained the willingness of the participant will achieve a higher level of trust. In line with ethical requirements any survey will inform the public with the intentions of the investigation and the onward transfer of their personal data. Within this investigation two questionnaires outlined in table 3.3 and appendix 6.6 discover impacts, change in perception and overall public opinion of implemented playful interactive experiences within the urban realm.

Table 3.3: Questionnaire Survey Overview

	Questionnaire 1	Questionnaire 1
Focus Group	General Public	General Public
Type	Onsite Handout (pilot study)	Onsite Interview style with interviewer recording results on an electronic tablet
Aim(s)	Gain public opinion surrounding playful interactivity in public space in order to: 1. Identify users thoughts on approaches to playful public spaces 2. Find out if users believe art and design is important within their public areas 3. Identify the opinions and effects of the implemented designs 4. Judge reactions to the artefacts 5. Identify problems with current designs and design framework 6. Gain additional comments to bridge gaps in current findings.	Gain public opinion on the impacts of the playful interactive experience in order to: 1. Assess the impact of the playful design implementation 2. Find out how users discovered the spatial experience 3. Identify attraction 4. Discover if the events provoked follow on actions and to identify these actions 5. Judge users perception of the spatial setting and if it had changed during events 6. Identify the level of success 7. Discover if participants did encompass the feeling of play 8. Identify problems with current designs and design framework 9. Gain additional comments to bridge gaps in current findings.
Research Stage	Framework Implementation (Chapter 5)	Framework Evaluation (Chapter 6)

(a.) First Stage Questionnaire Survey

Questionnaires aimed to be supplied to the public during the implementation of design events aiming to pilot the questionnaire required to evaluate a playful design experience. The first stage questionnaire has been included within the research in part as important findings of public opinion were gained thus informing the evolution of frameworks. Essentially the public are the target group of the playful interactive experience and the knowledge gained through the questionnaire is important for the ongoing methodology and evaluation of this investigation. Questionnaire methodology followed a typical structure of design and testing before being handed out to the public as seen in figure

3.8. It aimed to give users as few open ended questions as possible thus giving data output that could be compared easily with graphs (Appendix 3.6a). The majority of questions would be multiple choice, when offering multiple choice questions the designer must be careful to give clear answers with no overlap (Cohen et al, 2007), for participants to clearly answer. During the first stage questionnaire it was important to leave few open ended questions, to gain opinions and potential suggestions which would aid further framework construction and amendments. As suggested by Cohen et al (2007) “Open questions enable participants to explain and qualify their responses” (pp.321). Statistical results of questionnaire findings aim to provide the study with clear numbers pointing towards successes and failures of the project, the last open ended question aims to be benchmarked against focus group and expert opinions to form conclusions and framework amendments.

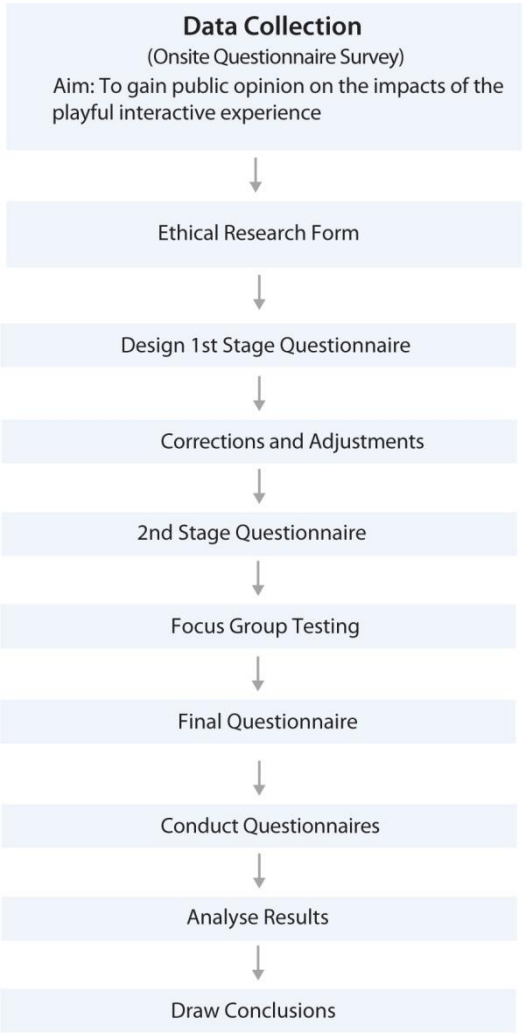


Figure 3.8: Questionnaire Methodology

(b.) Second Stage Questionnaire

The second survey is performed as an onsite interview style questionnaire with results recorded on an electronic tablet during the implementation of the GUL event. The interviewer was to fill in answers for participants; as such open ended questions would be eliminated. To achieve comparable data multiple choice questions and a Likert scale were utilised (Appendix 3.6b). Utilising a Likert scale allowed the participant to answer "how strongly they agree with a series of statements" (Saunders et al, 2003), providing the study with a range of responses thus "building a degree of sensitivity and differentiation of response while still generating numbers" (Cohen et al, 2007, pp.325). Finally it was important for the survey to be applicable to a substantial portion of the public, and as such the questionnaire was also supplied in Greek (Appendix 3.6c). Testing in both English and Greek would be aided by members of Urban Gorillas NGO and the 3rd supervisor at Frederick University, questions would be subsequently tested through focus group feedback. The length of time it takes to fill out the questionnaire is important, aiming to be no longer than four minutes.

Participants were fully aware of the study; the questionnaire would include the following: "this Poster (Appendix 3.7) (POINT TO IT) is to inform you about the project. Upon completing this questionnaire do you agree for this information to be used for the purpose of academic research?" Furthermore the author would be available to answer any additional questions, anyone whom did not agree, their results would be exempt from the study.

3.3.5 Observational Studies

Edmonds (2011) promoted that methods of interaction analysis are required to delve into social sciences. This allows the researcher to gain a basic knowledge of human behaviour which is needed when evaluating any public site. Within the design field observations have been related to the notion of field ethnography (Laurel, 2003) where "a person or group of people are observed by a researcher while they go about their normal lives" (pp. 27). This usually occurs when we need to learn more about the people we are designing for. Saunders et al (2003) outlines two types of observations, a. Participant observation, deriving from "the work of social anthropology [...] its emphasis is on discovering the meanings that people attach to their actions," and b. Structured observation, which is "more concerned with the frequency of those actions" (pp. 221). Within this investigation observational studies aim to discover the impact of design artefacts for play permission along with any potential change in sociability and spatial usage. As such structured observations are deemed appropriate, further methods of professional interview, questionnaire surveys and focus group feedback aim to support results in why these changes occurred.

Placemaking is heavily linked to methods of observations. Lynch, (1960) is among the pioneers of the social usage approach; in short the examination of people's perceptions to their city and spaces has wider implications on re-design outcomes. At the forefront of placemaking is the general public, without an understanding of the general public change is unlikely (PPS, 2000). Gehl (2010) within a variety of publications advocates methods of counting, mapping, photography, diary keeping, tracking and test walks as standard placemaking techniques, measuring successes or failures of public spaces through: levels of pedestrian flow, length of activity and human social interaction. Furthermore, PPS (2000) outline behavioural mapping techniques allowing the study of people's behaviour. This investigation employs: counting, mapping and photography.

Counting: Observational studies allow the researcher to produce statistical outcomes by utilising methods such as tick chart data collection. "Counting is a systematic method of gathering numerical data about people" (PPS, 2000, pp. 104). Bell (2005) advocates tick charts as a method for observational data collection, pointing out that the creation of coding sections is required as to eliminate bias in categorisation, additionally to aid the researcher, limiting these categories allows for simpler analysis.

Mapping: "Behaviour mapping is an objective method of observing behaviour, associated with built environment components and attributes" (Cosco et al, 2010, pp.513), allowing the research to create visual outcomes of plotted maps. PPS (2000), recommend that behavioural mapping can be used for both stationary actions and for movement. "However, since people moving through a place are often too numerous or moving too fast information about them is best recorded through counting" (pp.101), therefore suggesting that mapping is best placed when limited to static actions.

Photography: Visual data collection provides the study with documentation to support findings of counting and mapping, demonstrating a visual output for onward transfer.

3.3.5.1 Protocol

As displayed in Table 3.4 and in line with previous methodologies, this investigation will employ varying stages of observational studies: first, to identify levels of user interaction with playful interactive experiences, second to document user interaction visually, third, to provide the study with statistical data, fourth, to allow comparable results and finally to coordinate results against complementary methods of data collection for a triangulated research outcome.

Table 3.4: Observational Studies Overview

	Observation 1	Observation 2	Observation 3	Observation 4
Subject	Users of the Playful Interactive Experience (General Public)	Users of the Playful Interactive Experience (General Public)	General Public Pre-Implementation	General Public Pre-Implementation
Observation Type	Counting	Photography	Counting	Counting
Outcome	Tick Charts of Statistical Data	Photo Documentation	Tally of number of users and within a space	Tally of number of users actions within a space
Research Stage	Framework Implementation (Chapter 5)	Framework Implementation (Chapter 5)	Framework Evaluation (Chapter 6)	Framework Evaluation (Chapter 6)
Aim(s)	To recognise levels of user interactions with a playful interactive experience	To visually document levels of user interactions	To provide benchmarks pre-implementation	To provide benchmarks pre-implementation

	Observation 5	Observation 6	Observation 7	Observation 8
Subject	General Public Pre-Implementation	General Public During -Implementation	General Public During –Implementation	General Public During -Implementation
Observation Type	Behavioural Mapping	Counting	Counting	Behavioural Mapping
Outcome	Visual mapping of users actions within a space	Tally of number of users and within a space	Tally of number of users actions within a space	Visual mapping of users actions within a space
Research Stage	Framework Evaluation (Chapter 6)	Framework Evaluation (Chapter 6)	Framework Evaluation (Chapter 6)	Framework Evaluation (Chapter 6)
Aim(s)	To provide benchmarks pre-implementation	To recognise changes in number of users	To identify changes in user actions	To visually discover changes in user actions and their locations

Observations following the advice of Whyte (1980) and Creswell (1994) should be conducted discreetly; otherwise users may be inhibited to interact due to the presence of researchers and data collection methods. In the case of this investigation it was unable to completely hide observations due to ethical concerns. Posters were placed at all sites informing participants on research purposes. Posters (Appendix 3.8) relayed that data would be treated as strictly confidential and was to be kept safe by the author within a locked drawer and only the researcher and supervisors be allowed access to raw data.

a. Levels of User Interaction

First stage observations aim to recognise levels of user interaction which occur within the playful interactive experience. Observations for levels of user interaction occur during the implementation of the 'let's intervene' project, it is important to the study to implement the framework for interaction analysis to gauge outcomes. Two methods of simultaneous data collection were required, tick chart data collection and visual observational documentation.

1. A *supporting tick chart* (Appendix 3.9) has been designed as a parallel data collection method for the framework of interaction analysis. The tick chart comprises the levels of interaction, with an added column 'other,' to be filled in if another state of interaction is observed.
2. To gain *visual data* members of the design group would be employed as 'cameramen' to discreetly document the experience.

b. Research Evaluation

Observational studies at the framework evaluation stage aim to discover spatial impacts of a playful interactive experience. Data was to be collected before and during artefact implementation of the GUL event for comparison and conclusions. Due to large scale testing sites cameras would be placed in crucial locations to track spatial usage for later watch back data collection. Observations would follow methods of: counting (Appendix 3.10)**,** to produce statistical outcomes, mapping (Appendix 3.11), providing visual outcomes of plotted maps and photography, for visual support. Pre-design results would serve as benchmarks for comparison, both visually and statistically.

3.3.6 Summary

This section has provided an overview of methodologies employed during the course of this research, outlining the protocol for the multi methods put into practice during the three stages of this investigation: framework development, implementation and evaluation. Framework evaluation methodologies display the planned assessment of research findings. Furthermore once all data is transcribed and analysed, results will be triangulated to draw conclusions for investigation outcomes. Moreover, frameworks will be further amended, providing the research with contributions. These contributions lead to final conclusions and important recommendations for future studies by the author and fellow academics.

3.4 Conclusion

Overall, a multi method approach to research gives the opportunity to combine different techniques and strategies to reach an academic conclusion. The aims and objectives of the research were considered during the planning of research methods. Literature has indicated that allowing the public to be invited through a surprise encounter will gain instinctive reactions prompting the idea that users should only be invited through play permission.

Preparations of artefact evaluation methods are crucial at an early stage. Questionnaires involve groundwork, final design and printing, the framework for interaction analysis requires supporting documentation and transfer to persons for observational data collection. Interviewees and focus groups should be invited to design experiences and any additional data collection materials should be installed. Early preparation aims for a quick transfer of information post event for successful amendments of frameworks.

Suggested by Saunders et al (2003) a multi method approach allows confidence that the findings will address the most significant issues of the investigation allowing the triangulation of results to ensure that data is in fact displaying what the author believes it is showing. Previously stated, this research has been approached from an interdisciplinary point of view thus further highlighting a necessity to approach the methodology from varying perspectives. The following chapters will display the evolutionary manner in which these methodologies have been employed.

Chapter 4

Framework Development

4.1 Introduction

The primary aim of this investigation is the assessment of playful designs as 'tools' for interaction in order to produce models for onward transfer. Research development gives attention to the question of; how designers can create positive experiences, promote sociability and encourage the public to connect with spatial settings. The implementation of playful interactive experiences aims to: encourage spontaneity, utilise otherwise lost spaces, allow freedom for creativity of users and enhance a sense of place. At this phase of the investigation there is no solid definition for the playful interactive experience. Conclusions of literature searching suggest that playful interactivity has been viewed as 'sensation, stimulation and captivation' which has the potential to cause a sense of fantasy through the promotion of personal creativity and self exploration, thus providing the public with accessible events, allowing incentive to participate.

Placemaking, a methodology in itself begins with the human dimension. A subsection of placemaking is the activities which lie within. The playful interactive experience aims to be considered as an underlying activity of a short term placement within the wider picture of placemaking or contemporary urban design. To implement and evaluate the playful interactive experience a development of current principles from placemaking and playful interactivity theory are required to produce a system of best practices for experience creation. This Chapter, 'framework development' outlines: secondary research conclusions, expert interviews and a design analysis, forming the basis of frameworks for the creation and analysis of the playful interactive experience.

There are 7 sections within this chapter, section 4.2 provides an overall summary of secondary research findings, first concluding personal research and second a summary of the review of literature area. Furthermore this section explains a set of comparative frameworks utilised from literature findings to provide the research with conventions suitable for onward transfer for the creation of the playful and interactive experience within the public realm. Section 4.3 describes the expert interview process undertaken at this stage of the research to gain further knowledge of the subject matter from varying view points, along with aiding the framework development and validating current findings. Section 4.4 provides an analysis of secondary design experiences against the consensus of best practices. Section 4.5 displays amendments, re-categorisation and redefined principles, ending with the first stage framework for constructing the playful interactive experience. Section 4.6 continues to outline the framework for interaction analysis, concluding in an

overall summary in section 4.7. The process of chapter 4 is viewed as a course of first stage framework development, merging documentary research findings and primary investigation outcomes as displayed in figure 4.1.

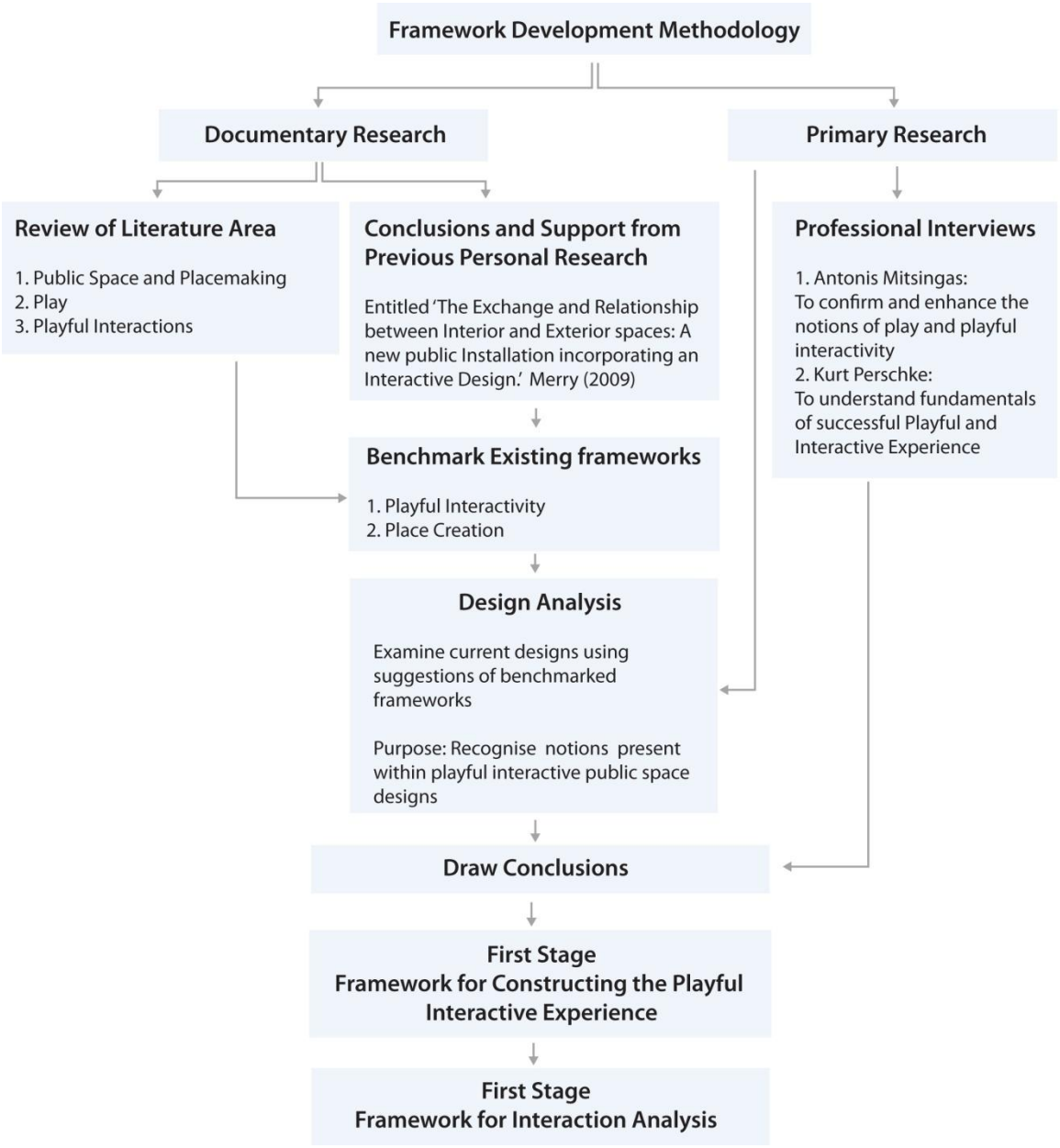


Figure 4.1: Framework Development Methodology

4.2 Secondary Research Findings

4.2.1 Conclusions and Support from Previous Research Findings

Previous research (Merry, 2009) concluded that integrated playful art and design in an interactive context was a viable method for the sustainable city. Conclusions stated that communication and human exchange is fundamental to cities of the future (Rodgers, 2000, pp.205). Spaces should reflect the need for sociability and "a successful solution is the incorporation of flexible, adaptable and interactive elements […] Interactive public art has the ability to enhance our cities and create sustainable spaces for the future" (Merry, 2012, pp.259). Furthermore outcomes proposed that when designed accurately and within the framework of modern society, we can promote places of identity. Future recommendations were: first, additional research into the areas of play and playful interactivity, second, 1:1 scale designs to test theories more effectively.

4.2.2 Review of the Literature Area

Literature findings advocate lack of incentives and overall feelings of privacy as problems of current public space usage (PPS, 2000; Madanipour, 2003; Merry, 2009). Canter (1977) noted that we should look further than the design itself and think more about people and importance of experience, thus highlighting that designers cannot think of one or the other, each aspect must be considered in parallel to achieve optimal understanding. In line with Creswell (2004) if space is socially constructed then it can be manipulated. In further contemporary theory, Whybrow (2010) is in full agreement of the city of the future becoming overrun by temporary and fleeting designs of an interventional and almost performance nature. A large number of publications demonstrated activities as potential catalysts in the production of increased sociability and spatial usage (Whyte, 1980; Hayden, 1995; Engwight et al, 1999; PPS, 2000; Gaventa, 2006; Merry, 2009; Whybrow, 2010; Hack, 2011; Carraz and Antoniou, 2015). The game does not matter, as long as the situation promotes freedom, pleasure and fun the attitude can be applied to any situation (Sicart, 2014). Public spaces have the possibility to be revitalised through the complementary use of placemaking techniques and experience creation, suggesting that designers who set the stage for public life allow freedom (Madanipour, 2003). A major piece of literature, 'The Place Diagram' (PPS, 2000) allows researchers a consensus of place creation, no one space is physically the same, but by concentrating on the emotional experience of space rather than

primarily the physical allows the possibility to enhance active engagement, discovery and fun. The notion of temporary, flexible and changeable spaces are also at the forefront of contemporary theory (Wunderlich, 2014). Within the view of Amin (2006) no city model can ever last as the nature of humans is to change over time.

Play encompasses the possibility to be adapted as a contemporary flow or new activity in the promotion of social interaction within public space, promoting the idea of a stimulus for social good which has been supported by contemporary theorists (Whybrow 2010; Steryn, 2014). “Like literature, art, song, dance; like politics, love and math, play is a way of engaging and expressing and being in the world” (Sicart, 2014, pp.5.). Play, a major part of human development is a natural and instinctive action, within design is a potential method where “social barriers are brought down, making it possible to engage, understand and develop without inhibitions” (Bramston, 2009a, pp.27).

Conclusions of playful interactivity and engagement suggests that stimuli, for good or bad creates experience and interaction, the act of pleasure is seen as an experience output of play (Jordan, 2002; Norman, 2004; Costello and Edmonds, 2007; Lucero and Arrasvuori, 2010 and Her, 2010). Furthermore playful interactions may be experienced individually or multiply, but ultimately even if experienced within a group setting it is something personal that is unique. Bringing the research full circle and linking the notions of play and playful engagement back to placemaking, the experienced or playful city holds the potential to host attractive and temporary works as methods for socialisation and increased spatial usage. The promotion of playful art and design as a method for creative engagement aims to‘re-enchant’ the city (Amin, 2006) allowing the public to put their inhibitions aside and react in an instinctive manner.

Two existing frameworks advocating methods of encouraged playful interaction have been benchmarked during the review of Literature:

a. The play/pleasure framework (Costello and Edmonds, 2007).
b. 5 engaging characteristics of playful interactivity (Her, 2010).

Researchers suggest through their implementation within an artwork or design installation results will be playful interactivity with the viewer. Principles lie in the realm of site specific and technology orientated works, this investigation aimed to evaluate these theories to decipher which properties are required for low or non technological playful interactive experiences within the public realm in line with research aims and objectives. To

create a point of reference for public space the 'Place Diagram' (PPS, 2000) is utilised. Built upon a large variety of current and past researchers the 'Place Diagram' is viewed as an essential method of placemaking with vast academic weight. Table 4.1 displays the outlined principles of the three existing frameworks.

Table 4.1: Benchmarked Frameworks for Playful Interactivity and Place Creation

Costello & Edmonds (2007) Play/Pleasure Framework	Her (2010) 5 Engaging Characteristics	(Project for Public Spaces (2000) Place Diagram
Creation	Incentive	Active
Exploration	Transfer	Fun
Discovery	Accessibility	Vital
Difficulty	Play	Special
Competition	Challenge	Real
Danger		Safe
Captivation		Walkable
Sensation		Sittable
Sympathy		Attractive
Stimulation		Historic
Fantasy		Diverse
Camaraderie		Stewardship
Subversion		Cooperative
		Neighbourly
		Welcoming
		Proximity
		Connected
		Walkable
		Convenient
		Proximity

4.2.3 Summary

The development of this study is the production of a set of best practices for the construction of the playful interactive experience. The first stage framework is based upon suggestions for the creation of playful experiences and place creation, discovered through the review of literature. The following sections display findings of expert interviews and a subsequent analysis of playful interactive designs to decipher if current principles are appropriate for the construction of playful interactive experiences in public space within the context of this investigation.

4.3 Expert Interviews

To further enhance research findings, two expert interviews were conducted: first, Antonis Mitsingas, Social Psychologist, second, Kurt Perschke, Artist and creator of the Red Ball Project, practitioner in the field of playful art. At this stage expert interviews were employed to:

- Gain additional knowledge of the subject matter from varying view points
- Aid framework development by providing gaps in existing research
- Validate current findings

Interviews aimed to have few structured questions in order to be open-ended, thus prompting further discussion rather than simply leading questions. It was important to ask the interviewees' permission to record the interview via the method of a digital voice recorder to avoid note taking during the interview process. Moreover it aided interview transcription where knowledge gained could be reviewed. Full interviews are found in Appendix 4.1 and 4.2. The interview process followed the methodology outlined in figure 4.2.

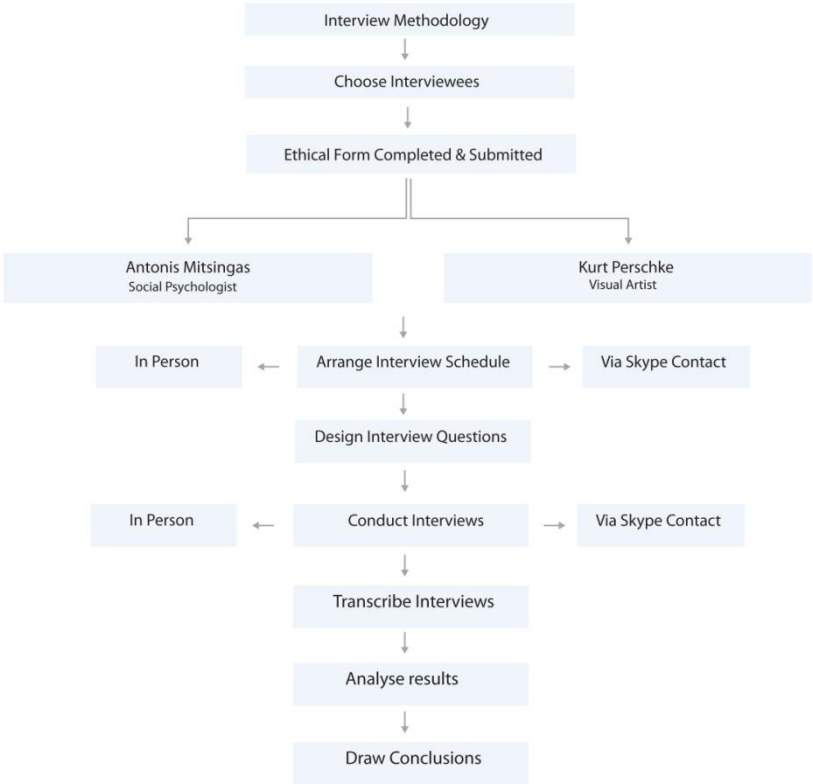


Figure 4.2: Interview Methodology

4.3.1 Interview 1: Antonis Mitsingas, Social Psychologist

Antonis Mitsingas, has *"taken part in more than twenty pioneering research projects funded by the European Commission related to the introduction of innovative products and practices in European countries, in science and education."* Furthermore he has *"actively involved with the Family Planning Association, Youth Organisation of Cyprus and several Social Welfare Councils."*

(Frederick University, 2012)

Aim: To confirm and enhance the notions of play and playful interactivity

Objectives

- To fill any gaps in current research
- To receive critical feedback on the current findings
- To obtain professional opinions on the subject matter
- To receive advice for the next stage of framework design development

4.3.1.1 Findings (Appendix 4.1)

Upon commencement Mr Mitsingas was quick to mention that play quickly reminded him of his childhood and brought about a notion of nostalgia. Play reminded him of his dog, which enhanced his childhood play experience by allowing him to interact with something that responded and vice versa. Play for children is the experience of a consequence of action which is experienced by the 5 senses. This is why items which stimulate play give children a chance to realise reality. It is extremely clear, in the research of play in children, the social and developmental notion of play, but when asked what about adults the answer was quite different. Adults need to feel comfortable within their play environment, and for now adult play is usually serious. He suggested that adults need to be given the chance to play, but predicted for now that play will continue through the means of digital interaction as it is 'exciting'.

Children encompass fantasy and creativity through play but suggested that through a nostalgic play adults may be brought back to their roots. This notion links to the idea of intergenerational play, for example, grandparents are put in good moods when playing with children. As a generalisation grandparents are usually retired and encompass less stress than the daily life of a parent, allowing then to enjoy the freedom of play.

In relation to play permission, discussions highlight the question of what type of play is acceptable for adults, should they use the excuse of sport, such as golf to be 'allowed' to

play in the contemporary world. The overall scope of the interview suggested that play was an escape which not only happened in that moment, as suggested by Huizinga (1938) but becomes a further stress reliever, play has the possibility to give escape from our everyday lives. Concluding the interview, it was suggested that in the future we may learn how to separate technology from our everyday lives and to go back to a basic state of physical play.

4.3.2 Interview 2: Kurt Perschke, Artist and creator of the Red Ball Project

> *"Kurt Perschke is an artist who works in sculpture, video, collage and public space. His most acclaimed work, RedBall Project, is a travelling public art project that has taken place in Abu Dhabi, Taipei, Perth, England, Barcelona, St. Louis, Korea, Portland, Sydney, Arizona, Chicago and Toronto, and received a National Award from Americans for the Arts Public Art Network."*
>
> (Perschke, 2001)

Aim: Understand the fundamentals of Playful and Interactive Experience from the practitioners view point

Objectives

- To determine usual public reactions
- To learn professional opinions on the enhancement of the community
- To gauge importance of playful design within public spaces
- The find out opinions, benefits and constraints of temporary designs
- To fill any gaps in current research
- To receive critical feedback on the current findings
- To receive advice for framework development

4.3.2.1 Findings (Appendix 4.2)

Kurt Perschke, artist and designer of the hugely successful red ball project (figure 4.3), does not purely see his design as a piece, but as performance over time, moving through cities and making people take notice of their surroundings. He suggests that the invitation and permission which the ball allows is what offers playful user choice to the audience. It can be concluded therefore that interaction is not forced, but purely offered thus providing an opportunity.

Figure 4.3: The Red Ball Project, Kurt Perschke, 2001-Present.
(Images Courtesy of Kurt Perschke)

The primary invitation of the ball is play, but from an artist's perspective he sees play as not only physical but also a highly intellectual phenomenon dependent on culture and context. He believes that intellectual and physical play have the ability to be equal but to play physically for an adult is seen as more extreme.

Within the discussion of permanence he notes that the temporal nature suits our moment in time today, that our notion of consumerism is temporary and so should be our art, stating that 'short and intense' is our way forward in a mobile way. A permanent piece of art was viewed as a monument, when discussing the context of a monument the outcomes are very different. Furthermore a temporary nature allows the piece to build an audience who follow the ball, the surprise element of the ball appearing within unexpected locations allows the public to question, prompting a level of heightened interaction, not merely with the object but with each other.

4.3.3 Summary

In agreement with current literature (Sicart, 2014 and Zimna, 2014), the playful interactive experience within the public realm should not consider adult themes; experiences should concentrate on the innocent and carefree elements of play. Anything too serious may lose the sense of fun, pointing towards a simplistic and whimsical nature.

Interviews additionally verified that playful activity is essential for all, not merely children as so heavily researched in the past. Adult play was seen as an opportunity to escape the everyday stresses and strains allowing a back to basics approach. Playful interactive experiences placed within the public realm have the ability to be different to public art projects in the past through the promotion of various levels of interaction not only with the object itself but with one another. Furthermore, interviews recommended principles to be inclusive within the design of playful interactive experiences within the public realm as seen in Table 4.2.

Table 4.2: Expert Conclusions

Expert Conclusions	
Reach Maximum Senses	Reaching the maximum senses as a method of experience allows the user to fully comprehend the spatial experience through its design properties in order to form emotional responses.
Allow Familiarity	Familiarity (Similar to incentive) promotes a relaxed and friendly atmosphere allowing the user to interact comfortably
User Choice	Permission to interact is given but not forced. Level of interaction to be determined by the user as opportunity is provided but not forced
Play as an Instinctive Response	Use of basic play 'objects' to promote a playful response
Play Permission	Offer the permission to play in a safe environment
Mobile Nature	Design is transferable to various locations

Displayed in Table 4.3 the combination of expert feedback with current academic principles enabled the research to form a set of best practices for onward testing.

Table 4.3: Best practices for Playful Interactivity and Place Creation

Costello & Edmonds (2007) Play/ Pleasure Framework	Her (2010) 5 Engaging Characteristics	PPS,(2000) Place Diagram	Expert Feedback
Creation	Incentive	Active	Reaching Maximum senses
Exploration	Transfer	Fun	Allow Familiarity
Discovery	Accessibility	Vital	User Choice
Difficulty	Play	Special	Play: Instinctive Response
Competition	Challenge	Real	Play Permission
Danger		Safe	Mobile Nature
Captivation		Walkable	
Sensation		Sittable	
Sympathy		Attractive	
Stimulation		Historic	
Fantasy		Diverse	
Camaraderie		Stewardship	
Subversion		Cooperative	
		Neighbourly	
		Welcoming	
		Proximity	
		Connected	
		Walkable	
		Convenient	
		Proximity	

4.4 Design Analysis

To primarily test the best practices for playful interactive experiences in public space an analysis of selected playful design projects was conducted (Figures 4.4 – 4.11/ Appendix 4.3). Projects were chosen due their engaging characteristics. They were viewed as encouraging active participation whilst simultaneously suggesting a tactile nature, thus fitting the aims and objectives of the research. Eight designs were evaluated to assess how many of the engaging characteristics of playful interactions and place creation they possessed (See Appendix 4.4). Once designs had been benchmarked against each of the principles, a straightforward method was utilised, answering yes, no or N/A to note if characteristics were present. The mode would be used as a denominator in eliminating principles; those which encompassed a score less than four would be removed from the framework. Once results were calculated the framework would be amended for onward testing.

4.4.1 Selected Projects

(a.) Daily Tous Les Jours, Musée des possible, Montreal, 2010.

Figure 4.4: Daily Tous Les Jours, Musée des possible, Montreal, 2010.

For one day only Daily Tous Les Jours (A design studio that concentrates on participation) filled a field with balloons with the intention for users to share their dreams and visions, inspiring the public to share and imagine their possibilities. A user would choose a piece of paper and write down a thought of what they would like to do and who they would like to meet within the space. The public were also given stickers where they could vote on others wishes for the space, a way that they could individually but also collaboratively experience the space. At the end of the installation the submissions of the public were given to the local council and the users were able to take the balloons home (Daily Tous Les Jours, 2010).

(b.) The Red Ball Project, Kurt Perschke, 2001-present

Figure 4.5: The Red Ball Project, Kurt Perschke, London, 2012.
(Image courtesy of Kurt Perschke)

Kurt Perschke creates encounters with the everyday experience through his red ball. The implementation of the large red ball invites users to engage in a participation of the game, the surrounding architecture and the public. In an email conversation on the 10th November 2012 Perschke states that the 'true essence of the red ball project is to engage and collectively imagine.' The project is now in its 17th year of travel around the globe producing a 'developing story' in how each city as well as their communities responds to the invitation of the red ball (Appendix 4.2).

(c.) Red Swing Project, University of Austin, Texas, 2007 – present

Figure 4.6: Red Swing Project, University of Austin, Texas, 2007 – present

The red swing project aims to positively impact on under used and underutilised public spaces. Since 2007 the basic wood and rope swing has been hung over 200 times globally. The project remains as a constant as the backdrop alters. The swing similarly to the red ball, is a familiar object which all can find a relation despite cultural, language, age, sex, gender or race differences. The red swing project questions what role can a swing play for the individual? (Art Alliance Austin, 2012).

(d.) Piano Stairs, Volkswagen Fun Theory, Sweden, 2009

Figure 4.7: Piano Stairs, Volkswagen Fun Theory, Sweden, 2009

The implementation of the piano staircase was created as part of the Volkswagen Fun Theory. The fun theory initiative aims to 'change people's behaviour for the better through the element of fun' (Volkswagen, 2009, para. 1). The piano stairs aimed to promote users to take the stairs rather than the escalator aspiring to heighten the mood of users along with encouraging exercise and healthy living. The element of fun intervening with the daily routine was integrated playfully into the everyday habit of the passersby. The initiative resulted in 66 % more people taking the stairs rather than before.

(e.) Candy Chang, Before I Die, 2011- present

Figure 4.8: Candy Chang, Before I Die, 2011

The project 'before I die' strived to create a reminder of what is important to people in life. The implementation of a large blackboard with a simple line, 'before I die,' allowed the passersby to complete this important issue. The project evoked extremely positive responses making this experiment a success. It has now been implemented in 30 languages and more than 60 countries. Beginning as a seemingly serious project the serious subject nature has been approached in a playful context, leaving memories and messages to the people who will later interact with the project (Chang and Reeves, 2012).

(f.) The world's deepest bin, Volkswagen Fun Theory, Sweden, 2009

Figure 4.9: The world's deepest bin, Volkswagen Fun Theory, Sweden, 2009

The implementation of the world's deepest bin' was created as part of the Volkswagen Fun Theory. Sound was placed within the bin to make placing objects within a fun and playful act. The project resulted in 72 kg of rubbish being collected in one day, in comparison with 31 kg on an average day (Volkswagen, 2009).

(g.) Karl Marx Bonsai, Plastique Fantastique, Berlin, 2008

Figure 4.10: Karl Marx Bonsai, Plastique Fantastique, Berlin, 2008

For a festival in Berlin in 2008, a large yellow pneumatic structure was created by Plastique Fantastique. The flowerpot was located for 4 days in Karl Marx Strasse, this is one of the most popular and multicultural streets in Berlin's neighbourhoods. The project consisted of one trunk, one bin and three benches. These elements were temporarily placed inside the walkable and playfully inflated structure (Plastique Fantastique, 2008a).

(h.) Thomas Heatherwick, Spun Installation, London, Southbank, 2010

Figure 4.11: Thomas Heatherwick, Spun Installation, London, Southbank, 2010

For the launch of the London design festival in September 2010, Thomas Heatherwick Studios implemented approximately 30 of their spun seats into London's Southbank, thus inviting the public to play with the design (London SE1, 2010). The spun chair invites users to both relax and play, and from personal experience it produces interaction and humour between users' acquaintances and strangers alike.

4.4.2 Findings

Findings reveal: Play, Exploration, Incentive, Discovery, Accessibility, User Choice, Transfer, Stimulation, Fantasy, Creation and Play Permission were encompassed in all eight designs (Table 4.4/Appendix 4.4). In agreement with current literature (Sicart, 2014 and Zimna, 2014), adult themed characteristics of play were not witnessed, whereas many of the whimsical and fun notions of play were seen in almost all of the works. Challenge was not observed; moreover challenge may be a deterrent and remove the idea of spontaneity and incentive to all.

Table 4.4: Evaluating Playful Interactivity

Costello & Edmonds (2007) Play/Pleasure Framework	Her (2010) 5 Engaging Characteristics	Expert Opinions	Scale 1 - 8
Danger			0
Competition			0
Difficulty	Challenge		0
Subversion			1
Sympathy			1
Completion			1
Camaraderie			2
Sensation			6
		Mobile Nature	7
		Play: Instinctive Response	7
Captivation			7
		Reach Maximum Senses	7
		Allow Familiarity	7
Creation			8
Fantasy			8
	Play		8
	Incentive		8
Exploration			8
Discovery			8
	Accessibility		8
		User Choice	8
		Play Permission	8
	Transfer		8
Stimulation			8

In relation to place creation results reveal that characteristics: Safe, Real, Neighbourly, Walkable, Attractive, Active, Fun, Diverse and Accessible scored the highest

(Table 4.5). These characteristics suggest a participatory nature, serving the view point that a linkage between engaging qualities of playful interactions and successful placemaking characteristics can be combined as a basis for this research. Placemaking principles which scored very low were not because they are not suitable for public space design but because they are permanent fixtures which can't be encompassed within the aims of this investigation.

Table 4.5: Evaluating Place Creation

Project for Public Spaces (2000)				
Uses & Activities	Comfort and Image	Sociability	Access & Linkages	Scale 1 – 8
Vital				0
Historic				1
		Stewardship		1
	Sittable			2
			Convenient	N/A
			Proximity	N/A
			Connected	N/A
Special				N/A
		Diverse		5
		Cooperative		6
	Walkable		Walkable	7
		Welcoming		7
		Neighbourly		8
Real				8
Active				8
Fun				8
	Safe			8
			Accessible	8
	Attractive			8

It is important to comment on notions of Convenient, Proximity, Connected and Special as being in reference to design placement. These features were deemed to be non applicable as most designs were mobile or modular in nature, moving forward with this investigation playful experiences can be implemented into a site which hold these attributes for maximum impact. Overall findings point towards a fun, whimsical, instinctive and back to basics approach to play and interaction. This includes: reaching the maximum senses, promoting an ephemeral nature, and encouraging creativity and pleasure for interactions on multiple levels.

4.4.3 Summary

Results led to the dismissal of various principals of current academic suggestions. Subsequently the remaining characteristics of placemaking, play and playful interactivity were merged to form the first stage formwork for the creation of the playful interactive experience as seen in Table 4.6.

Employing a secondary design analysis to inform this research is a subjective method which encompassed limitations and bias. Any experiences not witnessed firsthand had the potential to distort findings. To counteract this bias the employment of expert interviews at the early stage of the investigation was vital. Furthermore, design for research within Chapter 5 aims to put framework principles into practice to discover a firsthand analysis of playful interactions. Professional interviews allowed insight into the issues of play for adults from a sociological point of view and from an experienced practitioner who has the additional insight into years of observational experience. Table 4.6 displays the merging of principles forming the first stage framework for the creation of the playful interactive experience, aiming for: increased sociability, creativity and experience in public space.

Table 4.6: First stage framework for the creation of playful interactive experiences in public space

Playful Interactivity	The Creation of Place	Professional Opinions
Sensation	Walkable	Reaching of senses
Captivation	Real	Allow Familiarity
Stimulation	Safe	User Choice
Fantasy	Cooperative	Play as an instinctive response
Play	Neighbourly	Play Permission
Captivation	Attractive	Mobile Nature
Incentive	Welcoming	
Transfer	Active	
Accessibility	Fun	
Incentive	Diverse	
Creation	Accessible	
Exploration	Convenient	
Discovery	Proximity	
	Connected	

4.5 Framework Amendments

Table 4.7 displays the re-categorisation and re-definition of framework principles in order to create a clear and legible structure for onward testing within this investigation. The following section defines seven categories for the construction of the playful interactive experience, concluding in the framework for interaction analysis (See section 4.6 for further detail).

Table 4.7: Constructing the Playful Interactive Experience: Version 1

Accessibility (To the site)	Design Communication	Play Permission	User Reaction	Design Suitability	Level of Permanence	User Interaction Refer to Framework for Interaction Analysis (See Section 4.6)
Walkable	Familiarity	Utilisation of senses	Instinctive Response	Diverse	Temporary	Individual
Safe	Attractive	Creativity	Captivation	User Choice	Transient	Collaborative
Neighbourly	Welcoming	Active	Sensation & Pleasure		Mobile Nature	Follow on dialogue
Convenient	Engaging	Fun	Stimulation			Follow on Visual Communication
Proximity	Random Encounter	External Stimuli	Fantasy			
Connected	Incentive	Exploration				
	Transfer	Discovery				

The framework for interaction analysis highlights levels of user interaction with a playful interactive design as well as the wider spatial experience, thus providing designers with an insight into potential interactions. During the production of the framework for constructing the playful interactive experience, it became necessary to create parameters for observational analysis to comprehend the reciprocal actions between the user and the playful experience and/or other users as well as the exchanging process of social activities that occur parallel with the design experience.

Frameworks aim to be utilised in conjunction with one another, allowing users to understand a set of best practices for ‘experience’ production and subsequent evaluation. Furthermore utilising the framework for interaction analysis during the production process allows the designer to be aware that through implementation of a playful experience there

is the possibility for 'transfer'[14] to occur, thus encouraging designers to keep in mind possible levels during the design process. Moreover the framework for interaction analysis provides a tool for observational evaluation, allowing it to be a technique for observational data collection during design implementation (see sections 5.4.2 and 7.3.2.2).

(a.) Accessibility (To the site) refers to site selection of implemented design experiences. Research suggests if a public space is not accessible in the first instance it might hinder experience output. A space which can be reached and entered easily has the potential to encompass an approachable, obtainable and appreciated experience.

Walkable: Site selection should be close enough and suitable for walking in terms of proximity to the wider city. In addition it should allow users to safely walk around and to the space.

Safe: Safety within the public realm is a key issue that users are not exposed to any danger and that there are no attributes which are likely to cause harm. In addition to public safety it is the designers' responsibility to protect the elements existing within the site such as public buildings artworks and monuments.

Neighbourly: The site should aim to promote a good nature which is 'lost' within many public areas today. The promotion of a friendly co-operation should aim to bring the public back together in a helpful and neighbourly fashion.

Convenient: A convenient setting suggests a site selection which is situated to allow easy access to all. By choosing a site which is at the heart of the city, thus allowing the spatial experience to be seen as fitting in with users other plans will allow for more users and a heightened exposure.

Proximity: Proximity, similar to the notion of convenience and walkable, suggests that site selection should be chosen due to nearness in relation to other important elements of the city. Site selection should consider the proximity of the space in terms of spatial setting, time it takes to reach the area and relationship to major elements of the city.

[14] Transfer is the shift from the stage of incentive through to an actual interaction. Transfer has the possibility to promote visual documentation of the experience (photography/video) and dialogue between users and/or passersby.

Connected: It is important that chosen site connect well with the other parts of the city, in terms of proximity and walkability. Furthermore site choice should keep in mind a space which has the ability to create a new city link, by providing a new method of access and communication to bring the community together.

(b.) Design Communication is vital to successes and failures, especially within the public realm. If a design is not comprehendible and inviting, users will fail to interact. For successful 'playful experiences' it is essential to create a welcoming and attractive atmosphere through a surprise and random encounter to encourage incentive, active participation, and transfer.

Familiarity: Familiarity with a design experience promotes a friendly atmosphere which will allow the user to interact to a level which they feel comfortable. The closer and more familiar we are with something, the more relaxed we become, thus allowing the user to engage quickly.

Attractive: To be attractive is to be pleasing and appealing to the senses. Any designer is concerned with the aesthetic of a design outcome; a playful experience must be attractive in terms of its final aesthetic and materiality. In addition it should aim to heighten the overall attractiveness of the surrounding area.

Welcoming: A playful design must communicate a welcoming atmosphere in a friendly manner in order to make users feel comfortable to interact within a space, thus aiming for the user to react with pleasure and even approval to the spatial experience.

Engaging: To engage is to occupy and attract in terms of someone's interest and attention. A playful experience aims to attract users through the whimsical notions of play. Once users are attracted it should provide enough stimulation to interact further.

Random Encounter: When faced with an unexpected experience within the city designs must consider initial user reactions. The playful experience should be one of discovery but not one that encompasses fear or unpleasant emotion. The random encounter should be aimed at fun amusement.

Incentive: Incentive to interact is the stage which motivates and encourages the onward process of interacting with the playful artefact. Incentive does not demand an actual physical interaction but provides the impulse or stimulus. If a design is lacking an incentive a negative result may occur.

Transfer: Transfer is seen as a shift from the stage of incentive through to an actual interaction with the 'playful experience'. It is the permission for the user to physically interact. Additionally, transfer has the possibility to continue to further post interaction stages, such as, documentation of the experience (photography/video) and discussions. Onward transfer may go further with documentation on social media and onward transfer of conversations at a later date.

(c.) Design Suitability is of great importance to consider suitability for a given site as well as user demographic (the general public). The appropriate design for the purpose of a 'playful interactive design' must be considered for a public setting as not to discriminate or offend within any situation.

Diverse: To be diverse is to show variety to the public. Designers should consider the diversity within the community to allow a design suitable for all, crossing multiple backgrounds, ages, social status and genders.

User Choice: It is essential to any public design project that users are given permission to interact but in no circumstances should they be forced. The level and length of users' interaction and even choice to interact at all should be provided but should always be given a choice. As such any implemented design should allow free movement and never block or disturb a transitional path thus forcing the user to interact.

(d.) Play Permission is to enjoy, although ambiguous in definition the act of play is seen as recreational enjoyment. Despite the deeper intentions of the 'playful interactive experience' users should be invited to interact with design through play permission which encompasses a less serious and more imaginative purpose. Allowing the public to engage in unexpected events of playful interaction will eventually lead to a deeper engagement with themselves, the object and others.

Utilisation of senses: The more senses a playful design reaches the greater the enticement to interact and thus experience. The utilisation of the senses aims to immerse the user within the implemented design

Creativity: Play permission invites creativity. The essence of play aims for users to explore their creativity, and use imagination. Designers should encourage the act of creativity for the purpose of experience output.

Active: A space should be physically engaging and promote various levels of interaction. Allowing the public to be physically engaged with the artefact promotes activity and onward transfer.

Fun: The promotion of amusement through the playful experience can be viewed as experiential output. In order to achieve this output, designers may use a humorous, colourful and entertaining solution in order to actively encourage enjoyment and pleasure.

External Stimuli: The play event is viewed as a catalyst for social interaction. By inserting external stimuli in the form of play it becomes an event that evokes reaction for good or bad. In this respect the play artefact becomes the 'tool' for interactivity with both other users and the play object itself.

Exploration: To explore is to learn, through the implementation of play permission the user is able to enquire and examine the spatial experience through various mediums. Exploration can be promoted through sight, touch, sound and just as importantly discussions with other users.

Discovery: Discovery, the pleasure from finding out the consequences of actions from play permission. The designer should aim for the artefact to display discovery in terms of both aesthetics and use. Users should be able to explore play through the notion that a specific action causes a reaction.

(e.) User Reaction is to do or feel a certain way in response to a situation of event. In most cases a reaction maybe completely instinctive. User reaction aims for users to react instinctively to encompass feelings of fun for the promotion of increased sociability and spatial experience. Designers should aim to captivate the audience through design output to promote sensation, stimulation, fantasy and pleasure.

Instinctive Response: The playful experience should prompt users to interact instinctively or without conscious thought. Initially this response could be basic human reaction, from a smile to laughter. The designer must allow this instinctive response to transfer to a physical interaction and possibly further follow up actions. If the instinctive response is that of negativity, it is highly unlikely that further interactions will occur.

Captivation: To captivate is to attract and hold the interest of the user. As such the play experience must hold the attention of the user. "Captivation could also involve participants enjoying a feeling that a work is controlling or driving their actions" (Costello and Edmonds, 2007).

Sensation and Pleasure: Sensation, a feeling of satisfaction and enjoyment linked to pleasure. It is important to note that pleasure is subjective and varying levels of sensation and pleasure may be witnessed.

Stimulation: Stimulation promotes the artefact acting as the stimulant to encourage active participation with the works and others. This can be heavily linked to play permission where participation may be achieved through stimulation.

Fantasy: The designer should apply fantasy to induce increased creativity of the user. The play experience for many may be seen as the fantasy, through the occurrence of the unexpected within lost areas of the city. Fantasy suggests that we imagine the improbable which is far away from our reality. As such the designer should think of an unexpected play experiences for the public realm.

(f.) Level of Permanence required is a temporary and transient in nature. The amount of time necessary to stay in one position is limited due to the aims of an instinctive and surprise reaction to a playful experience. Once a design has been implemented into the public realm for a significant amount of time its quality of interaction has the potential to decline.

Temporary: Temporality suggests an ever-changing notion. A temporary nature allows a space to be re-discovered through a variety of designs and allows further flexibility. Additionally an ephemeral experience is one of surprise and discovery in comparison with a public art monument which may be forgotten over time.

Transient: To be transient suggests a temporary nature, with an impermanent outcome. It is a momentary experience for a short lived project. Designers should keep in mind the materials and budget for such a project. A short-term project may be disposable or reused elsewhere.

Mobile Nature: An artefact which has the ability to be moved especially one that can be transported easily fulfils the aim of a mobile nature. This additionally allows more of the public to interact with the 'playful experience' at various locations within the same or other cities.

(g.) User Interaction is reciprocal action between the user and the playful experience and/or other users. It is the exchanging process of social activities that occur parallel with the design experience. A design requires utilisation for individual and multiple experiences, allowing co-operative play, exchange and active participation. (Refer to framework for interaction analysis/section 4.6)

Actions and Interactions: Measures should be taken during the design process to ensure that reciprocal actions are permitted during the experience.

Individual and Co-operative: To be individual or multiple is to experience both alone or with others. In response the 'playful experience' must encompass the play permission to do both. This may be seen in the physical experience or onward transfer such as photographic opportunities. The notion of the multiple may also be viewed as co-operative play.

4.6 Framework for Interaction Analysis

The Playful interactive experience aims for increased social and spatial interactions with the user. Secondary research findings proposed user interaction levels with interactive artworks and design installations (Forlizzi and Fords, 2000; Whybrow, 2010; Bilda, 2011; Candy and Edmonds, 2011; Brown, 2014; Steyn, 2014). To provide this investigation with a basis for an interaction analysis, methods generated from the field of Human Computer Interaction (HCI) were utilised to create a tailor made map of experience in the discussion of the playful interactive experience.

In 2004 Vogel and Balakrishnan conducted a study into interactive public ambient displays, building upon these findings Muller et al (2010) set out requirements and design space for Interactive Public Displays. The interaction diagram was re-designed and amended, combining Muller et al framework (2010) and further findings from the review of literature becoming the first stage framework for interaction analysis (Figure 4.13). The framework has been split into 4 categories: Individual Experience, Collaborative Experience, Follow on Dialogue and Follow on Visual Communication.

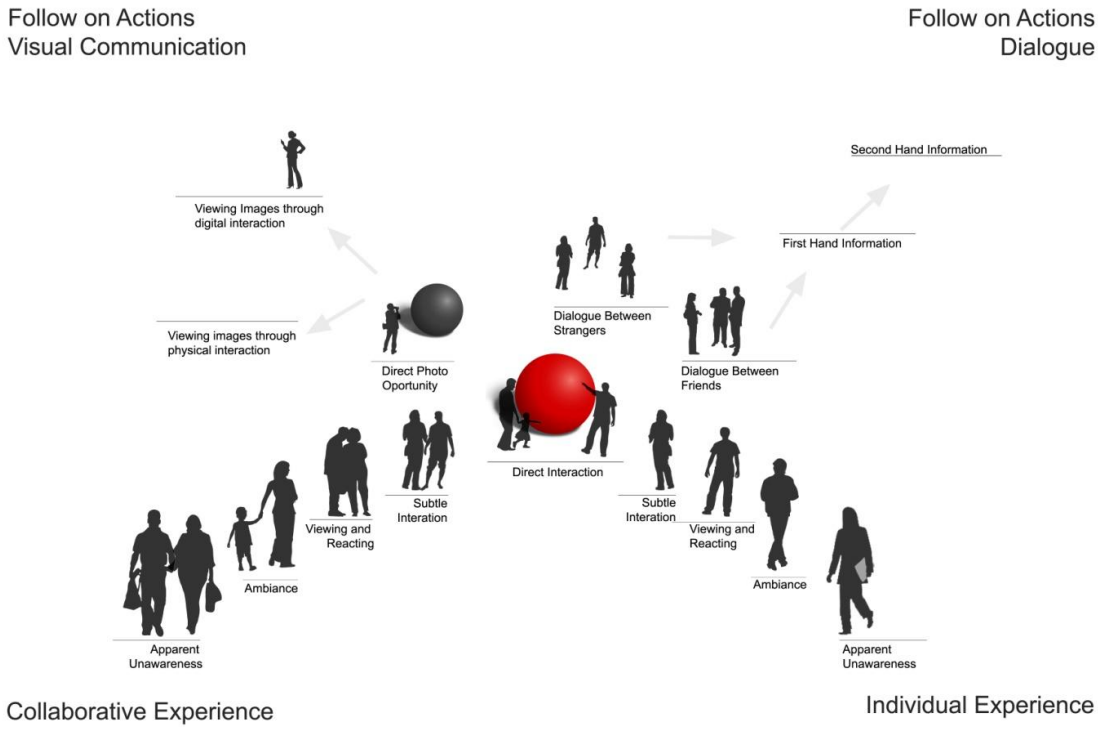


Figure 4.12: Framework for Interaction Analysis Version 1

a. Individual and Collaborative Experience*:* To evaluate user experience with playful interactive designs, designers should allow for multiple and individual experiences to occur simultaneously.

Direct Interaction: is the phase when a user engages in depth. Vogel and Balakrishnan (2004) suggest that this is a personal interaction that can be experienced alone or multiply.

Subtle Interaction: is when a user approaches a design but then pauses. As this is built upon a framework for multi-touch screen this phase was tested through pilot studies of playful design observations to comprehend if it is necessary in the public play space. Studies highlighted that observers were unable to identify between subtle interactions and methods of viewing and reacting. Consequently the phase before direct interaction will be defined as 'viewing and reacting.'

Viewing and Reacting: the phase where a user is looking at or reacting to an interactive experience. Muller et al (2010) use examples such as turning the head or smiling. This could also include laughter of an onward transfer to follow on actions.

Ambiance: is a neutral phase where a user is able to just take a quick glance to understand the overall information a space is giving. This may also be defined as passing by (Muller et al, 2010).

Apparent Unawareness: is the state of paying no attention to the spatial offerings. For Muller et al, (2010) ambiance is the last stage of interaction, ambiance suggests the atmosphere of a place, in the case of the playful experience a user may have the experience of the environmental feeling without the urge to interact further. The research intended to test a further state of interaction which was named 'apparent unawareness.'

b. Follow on Actions: Muller et al (2010) suggest follow on actions of the user, follow on actions have been split into two categories: dialogue and visual communication to observe what happens after a playful interaction.

Dialogue: The framework suggests that there is the possibility for dialogue between, strangers and friends. This information could then be passed on first and second hand.

Visual Communication: in contemporary society are usually photo opportunities resulting in an onward transfer of these images through digital and physical interactions.

Combining secondary research findings of levels of user interactions provides this investigation with a basis for interaction analysis. The framework aims to be a subsection working in collaboration with the framework for construction providing users with a structure to comprehend and assess the impact of an implemented design. Chapter 5, framework implementation aims to test the first stage framework to decipher which principles are suitable for the playful interactive experience while additionally comprehending any gaps in current findings.

4.7 Conclusion

The framework for the construction of the playful interactive experience within public space promotes principles for experience production. Initial research merges academic frameworks and expert opinions against an analysis of existing works to produce a method for onward testing and refinement. In the context of this research the first stage framework act as tools for play permission aiming for the design of the playful experience. Frameworks for construction and analysis aim to be used in conjunction, encompassing the possibility to be taken on by fellow academics and researchers as valuable tools for creation and evaluation of playful public spaces. Design case studies will test the legibility, principals and suggestions providing conclusions for onward amendments.

Thus far current literature and the analysis of existing designs recommend the playful interactive experience is: a participatory design which all of society is free to be involved, allowing passersby to impulsively, partake in or simply observe an out of the ordinary, ephemeral experience. It is usually one of humour and play permission which

unexpectedly intervenes with the usual setting aiming at heightened user experience of everyday surroundings.

It is important to note that a playful experience is difficult to comprehend if not witnessed firsthand, thus prompting a research for design methodology as a process to evaluate principles. Frameworks continue to be evaluated throughout this thesis within a multi method approach to refine suggestions. The following chapters will display these methodologies in practice.

Chapter 5

Framework Implementation

5.1 Introduction

Chapter 5 'Framework Implementation' displays the research for design methodology put in place through co-production of playful artefacts as seen in figure 5.1. Furthermore it displays findings of first stage evaluation aiming to test current frameworks for constructing the playful interactive experience and interaction analysis. Research hypothesis suggests that the inclusion of playful interactive experiences as catalysts within public space will: First, increase user experience by allowing users to explore their creativity in an individual or collaborative way. Second, heighten sociability and bring the public together. Third, expose the public to interactive installations otherwise avoided within a 'gallery' setting and lastly, divert the public from their usual routes within public space allowing once unused areas to become centres of activity. This hypothesis thus far has yet to be tested through primary studies.

Chapter 4 outlined first stage frameworks comprised from literature searching, professional interviews and analysis of existing playful design experiences. Chapter 5 will develop the research by illustrating: *Design,* the process from site selection through to final design production, *implementation,* of design artefacts and their *evaluation* through a multi method approach. This chapter concludes with framework amendments.

There are 8 sections within this chapter, section 5.2 introduces the design project and outlines the site selection for implementation. Section 5.3 explains the design process and relationship of designs to the framework for the creation of playful interactive experiences; furthermore it displays the implementation process. Section 5.4 evaluates the implementation of artefacts through multiple methodologies, displaying results of a questionnaire survey, observational summaries, expert interview and focus group feedback. Section 5.5 evaluates the impact of the designs in relation to each parameter of the framework for playful interactive experiences through the triangulation of results; subsequently section 5.6 yields conclusions and amends existing principals. An overall summary is given in section 5.7, and conclusions within section 5.8.

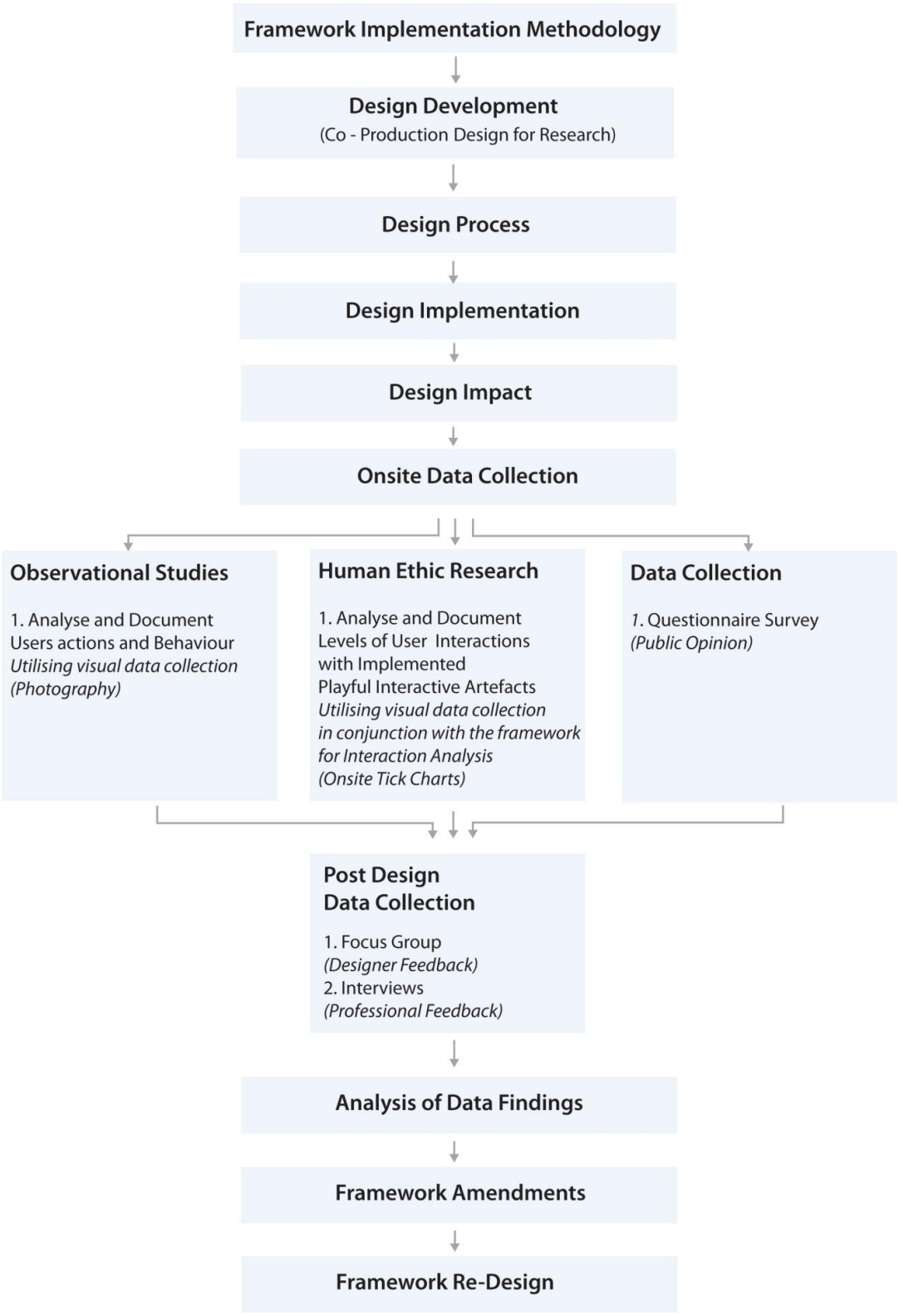


Figure 5.1: Framework Implementation Methodology

5.2 Framework Implementation

Primary research within this investigation is research for design to create playful interactive experiences for public space testing. The design process centres on a collaborative approach to employ the model for creation. A major aim of the framework is to be utilised by others from various backgrounds and disciplines. As co-creation was essential, collaboration with the Fine and Applied Arts department of Frederick University, Nicosia, Cyprus was established. A project entitled 'let's intervene' (Appendix 3.1) aimed to utilise the model to produce designs that would transform transitional and lost public spaces into places of memory and experience. Interior Design students in groups followed the project brief. The project was devised to allow others to be co-producers in the design process. Placement is essential to the playful interactive experience, before proposals could begin; the author and design group were required to understand the sites in which they were creating for.

5.2.1 Site Selection

'Let's Intervene' aimed to discover if playful interactive experiences would increase social interactions, improve creativity and generate a greater sense of place. The study utilised public areas of the Frederick University campus as seen in figures 5.2 and 5.3. The sites were within close proximity to the design process allowing designers to have easy access as well as an understanding of how the spaces functioned. "The University is a place often thought to be finished, it comprises of designated places of meaning, such as class rooms, offices, and social spaces, but what remains of the spaces in-between?"(Creswell, 2004, pp.37). These in between spaces can be related to 'loose' spaces as defined by Franck and Steven, (2007) which have the potential to be rediscovered for public good. When selecting the university campus, accessibility was addressed. It is suggested that if a space does not provide accessibility it has the potential to hinder experience output, but a space which can be reached and entered with ease allows for an approachable, obtainable and appreciated design experience.

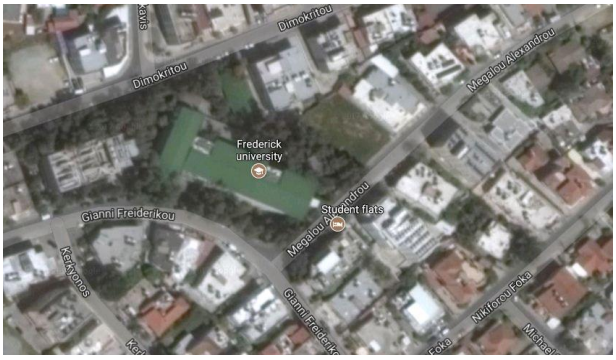


Figure 5.2: Frederick University, Nicosia, Cyprus (Google Maps, 2017[15])

Figure 5.3: Frederick University, Nicosia, Cyprus. *(Personal Images)*

Basic observations seen in figure 5.3 concluded a lack of use and activities within the public areas. Areas encompass access and linkages but greatly lack comfort and image, uses and activities and a sense of sociability. The University, at the heart of a neighbourhood within the city centre, allows the campus to be walkable, it was also considered to be neighbourly and encompassed potential to promote a good and friendly nature. Furthermore it is within good proximity to the city, surrounding houses and Local Park. It was viewed as a connected space which had the potential to create a new city link within a safe and convenient setting.

Once the University campus was chosen the secondary aim was to choose suitable sites within to test the design artefacts. Sites displaying varied properties were chosen to test framework principals. Firstly: a highly transitional area at the main stair entrance (Figure 5.4) secondly: an underutilised 'green' area of the campus. (Figure 5.5)

[15] Due to the proximity of Frederick University to the 'Green Line' or 'Buffer Zone' and the ongoing political situation of Cyprus, the attainment of clear visual maps of the University is extremely difficult and of bad quality.

Main Entrance Staircase: The high traffic and transitional staircase situated at the main entrance was the initial site of framework implementation. This is one of three entrances to the main building. The question within this site was if through an interactive design experience, the stairs could hold new meaning within the campus?

Figure 5.4: Main Entrance Staircase, Frederick University, Nicosia, Cyprus. *(Personal Images)*

Green Area: The second site explored the forgotten green area between the two campus buildings. The space had the possibility to act as a transitional area, but observations showed that people would merely walk around the perimeter of the site. This resulted in an underutilisation of a substantial portion of the campus.

Figure 5.5: Green Area, Frederick University, Nicosia, Cyprus. *(Personal Images)*

5.3 Design Process

During a two month design process, designers were split into two groups of 6 persons. Design development followed a typical process of: Research, Sketching, Design Proposals, Modelling, Concept Development, Material Selection and Final Designs. All steps were carried out in relation to the framework for constructing the playful interactive experience (Figure 5.6). The author as the designer at this stage in the investigation would place a large amount of bias upon: first, design outcomes, second the understanding of the frameworks and lastly, the ability to recognise failures or amendments. As such designers took responsibility at each stage with the author acting as the director and organiser of the project.

The first step was to obtain permission for the event. Playful interventions aimed to be a one day surprise event, to achieve this, implementation would be required to take place early in the morning and its removal late afternoon. Permission was gained at the onset to ensure all work was not wasteful. The University owner and health and safety officer were informed about the artefacts and permissions were gained. It was stressed that playful interactions should remain a surprise to anyone whom it was not vital to know about the project. Time frames displayed in table 5.1 for set up, implementation and removal were given and safety regulations adhered to. Figures 5.7 – 5.12 display the basic process of modelling through to final design implementation.

Figure 5.6: Constructing the Playful Interactive Experience (Version 1)

Table 5.1: Research for Design Event Timeframe

	Wednesday 27th March 2013
Set Up	6am – 8.30am
Implementation	8.30am – 3.30pm
Removal	3.30pm – 5pm

5.3.1 Stairway Installation

Figure 5.7: Stairway Installation – Concept Development and Final Design

Concept development of the main stairway entrance followed the framework brief, resulting in vertical red lines being applied to the staircase as seen in figures 5.7/8. The intervention of the monotonous everyday space, mixed with an attractive coloured and humorous design, aimed to capture immediate attention. The intervention caused surprise, confusion and even humour, encouraging and promoting social interaction through a contribution of ideas and opinions in relation to the playful design. As users gained familiarity, freer exploration and a heightened sense of play was observed, enhancing the argument that interaction design allows for renewed creativity. The lines permitted users to choose their own path of movement, allowing all to move freely about the space, whilst at the same time guiding them through structured pathways. Several users walked on or in between the continuous lines, while the more imaginative users moved about the space in patterned movements by zigzagging back and forth. No rules applied and no explanations were required for exploration, permitting personal interpretations and meanings (Figure 5.9). The following section outlines the relationship of the final design to parameters of the framework for the construction of the playful interactive experience.

Figure 5.8: Design Implementation 1. *(Personal Images)*

Figure 5.9: Design Implementation 1: Playful Interactions. *(Personal Images)*

Design Communication: aimed to create a friendly and surprise random encounter with the public realm. The use of the line was chosen to represent a recognisable shape, it is suggested that the more *familiar* we are with something then the more relaxed we become. The rows created by the red lines suggested a track like fashion that could be related by all. The colour red was chosen, firstly from existing research in successful design examples from projects such as the red ball and the red swing, but additionally to be *attractive* and pleasing to the senses. This allowed the final aesthetic to be eye-catching and contrast with the existing material of the stairs and the surrounding area. The red sticker was chosen to be a gloss finish to reflect and stand out further. The lines aimed to be *welcoming* and *engaging*, for the user to react with pleasure and approval to the experience, being allowed to engage with choice. The flat sticker expected *incentive*, it did not demand physical interaction but essentially it offered a *transfer* from incentive to a further interactive experience if the user would like. The installation also aimed to *transfer* information by using the new, unexpected *random encounter* to prompt the public to ask questions.

Play Permission: was offered with the purpose of leading the user to a deeper engagement of interactivity with themselves, the design and others. The framework suggests that *utilisation of senses* creates a more playful experience, but in the case of the stairway installation it only reached two. Design communication promoted incentive; this incentive is aimed at *creativity,* for the user to explore how to be creative within the parameters of the

given design. The stairs were walkable and *active* as a form of physical engagement. Overall play permission was aimed at *fun*, the red lines encompassed an ambiguous interpretation promoting humour through colour and placement. The installation was designed to become the tool for interaction, acting as *external stimuli* that would evoke reactions and allow both *exploration* and *discovery* on various levels.

User Interaction: is a reciprocal action between the playful experience itself and/or other users. Through the new use *actions and interactions* within the transitional area aimed to be increased. Designers were aware of how to create *individual and co-operative* experiences, pre design it was observed that groups climbed the stairs together but concluded that it was not possible to comment on how it would be perceived in the playful context; as such this part of the experience would be evaluated post implementation. The ambiguous nature and surprise encounter of the installation would offer a social activity which aimed to lead to *exchange* and *communication* and new *experiences.* Pre-design, it was understood that users would still use the stairs as a transitional space with or without the installation but through the interaction opportunities of the red lines it allowed for *active participation*, users could not only physically but also intellectually engage.

User Reaction: is linked to user interaction. The design process aimed to create an *instinctive response* from users in order to *captivate,* add *stimulation* and *fantasy* while additionally offering *sensation and pleasure* through the design experience. The use of colour and overall feeling of surprise, humour and fun aimed for this outcome but cannot be fully commented on until post design evaluation.

Design Suitability: aimed to be *diverse* and suitable for all backgrounds, ages, social status and genders as the line is a symbol which is generic for all and can be interpreted individually. Despite this it is important to comment that the stair installation may discriminate toward someone with a physical disability who cannot physically climb the stairs, but interaction in this case is seen not only as physical but also intellectually. *User Choice* is also essential and the materials and design created aimed to not disrupt the transitional nature of the stairs. It allows free movement and does not block or disturb the path. As such it does not force anyone to interact who does not wish and allows each user to interact to an individual level and length of time.

Level of Permanence: is required to be of a *temporary and transient* nature. The installation aimed at being a one day event in order to be a short term occurrence. Additionally installation was undertaken within the early hours of the morning at 6am when there were very few of the public around, thus aiming to cause surprise and discovery when the public were faced with a finished product. A *mobile nature* is also encouraged, the chosen material due to budget was sticker sheeting, and unfortunately it was known from the design process that this sticker would only have one use.

5.3.2 Green Area Installation

Figure 5.10: Green Area Installation – Concept Development to Final Design.
(Personal Images)

The second design of playful and mischievous elastics intended to promote the imagination and creativity of users seen in figure 5.10 and 11. The primary aim was the creation of a sense of place where currently emptiness was observed; thus encouraging users to interact with lost areas. Additionally the installation expected to develop skills of

communication through the element of play. In similar circumstances to the staircase, the installation prompted surprise and various subject matters of space and place within user discussions. Users were free to explore and interpret the installation on a personal level; several enjoyed moments of stimulation and freedom. Individuals and groups embraced the experience; observations show that groups encompassed a increased sense of communication and enthusiasm (Figure 5.12). By withdrawing the purpose of the intervention and allowing for individual interpretation, users encompassed unique reactions and experiences, these responses allowed for the creation of personal senses of place within users memories. The elastic installation is further discussed in relation to the framework for playful interactive experience within the following sections.

Figure 5.11: Design Implementation 2. *(Personal Images)*

Figure 5.12: Design Implementation 2: Playful Interactions. *(Personal Images)*

Design Communication: was encompassed through the creation of a friendly and surprise random encounter with the public. The use of elastic was chosen to offer the public a labyrinth to be explored within the forgotten green area, thus *welcoming* the public to the

space. As suggested *familiarity* supports a friendly atmosphere and the softness of the familiar material used in a new way aimed to promote this. In contrast to the green of the trees and brown of the floor the stark white elastic was chosen to increase the aesthetic of the space in a pleasing and *attractive* manner. The elastic installation was also a *random encounter* giving the public the unexpected experience especially since its design was to physically change the configuration of the space into an *engaging* and whimsical playful area. The aim was to give *incentive* to both physically touch and play with the design as well as to creatively explore the new spatial experience. Similarly to the red stairs, the installation also aimed in the *transfer* of information by using the new encounter to prompt the public to ask questions.

Play Permission: utilises the senses of touch, sight and sound. Touch: the materiality, sight: contrast of materials and the existing environment and sound: the wind moving through the installed elastics. The aim was to immerse the users into the experience prompting a long lasting memory, *exploration* of how the space could be used and to *discover* their own *creativity.* The design process aimed for the installation to be *active* in physical engagement in a *fun* and pleasurable way for experiential output. Finally the *external stimulus of play permission was* to evoke both good and bad reactions to the play object itself.

User Interaction: Through the idea that the green area has been given a new use the *actions and interactions* within this public area aimed to be heightened. The proposal of how to create *individual and co-operative* experiences was through the permission to do both, no rules were given and users would be free to interact as they pleased leading to a new type of social activity within the area which in theory would lead to *exchange* and *communication.* The overall *experience* and *active participation* aims to leave an impression either positively or negatively as users have the potential to interact with the space not only physically but also intellectually.

User Reaction: aimed to produce *instinctive responses* in order to *captivate* add *stimulation* and *fantasy* while additionally offering *sensation and pleasure* through the design experience, aiming at this outcome the use of a contrasting white material and an overall feeling or a surprise, humour and fun. These outcomes cannot be fully commented on until post design evaluation.

Design Suitability: To ensure a *diverse* design outcome the elastic installation aimed to be suitable for all backgrounds, ages, social status and genders as the materiality is understood by all and has the potential to be interpreted individually. In a similar case to the stairs it is important to comment that it may discriminate toward someone who cannot physically enter the space, but interaction is seen not only as physical but also intellectually. *User choice* is essential within every playful design. Users are still able to use the perimeter of the space freely and without interruption, a transitional pathway which was witnessed during observations of the site. Once users enter the installation they do have to physically interact in order to exit, but this is upon their user choice to enter in the first instance. The installation does not force anyone to interact who does not wish and allows each user to interact to an individual level and length of time.

Level of Permanence: The installation day aimed to be a one day *temporary and transient* event with a short term occurrence. The same installation method was taken as the stairs, within the early hours of the morning at 6am when there were very few of the public around, aiming to cause surprise and discovery when the public were faced with a finished design product. The elastics had the potential to be re-used within a new space, allowing for a mobile nature and flexibility of material. This flexibility would allow for a new aesthetic outcome within each new place it is installed.

5.3.3 Summary

It can be summarised that the implementation of playful experiences within the 'lost' spaces of the university campus increased interactions with the newly reformed spatial experiences. There was an increase in curiosity, but what was the strength of their impact, change in perception and mood? The designs encompassed the major suggestions of the framework but further evaluation methods are required to demonstrate if the playful artefacts were successful in their aims. The following sections review finding of data collection of methodologies, concluding in: an evaluation of design artefacts, summary of research findings and conclusions leading to framework amendments.

5.4 Evaluation

5.4.1 Onsite Questionnaire Survey

The questionnaire study initially acted as a pilot test aiming to serve the final evaluation questionnaire at later stages of the study. Participants were invited to fill out the questionnaire within their own time; when completed they were handed back onsite to the author or member of the designer group. Further to this, results were complied; the highly positive outcomes and valuable public feedback especially from the open ended question asking users to add additional comments were considered important findings of public opinion, thus providing reason for its inclusion and impact of framework models. The questionnaire survey followed a typical methodology aiming to gain knowledge from public opinion surrounding playful interactivity in public space in order to:

- Identify users thoughts on approaches to playful public spaces
- Find out if users believe art and design is important within their public areas
- Identify the opinions and effects of the implemented designs
- Judge reactions to the artefacts
- Identify problems with current designs and design framework
- Gain additional comments to bridge gaps in current findings.

5.4.1.1 Findings

Questionnaire findings (Appendix 5.1) were in favour of the themes of the investigation as well as the implemented designs. 84% of the surveyed public believed that the installations had a constructive effect on their day and 86% would like to see the designs remain permanently. In relation to the theme of transfer the results show that 94% believed that designs had positively affected the mood of the surrounding community (Figure 5.14). It is important to note that results in favour of the playful experience may be heightened since when asked if they had ever experienced an interactive space or art installation before 84% stated that they had not (Figure 5.13). This result may be linked to exposure and lack of community projects within their public spaces.

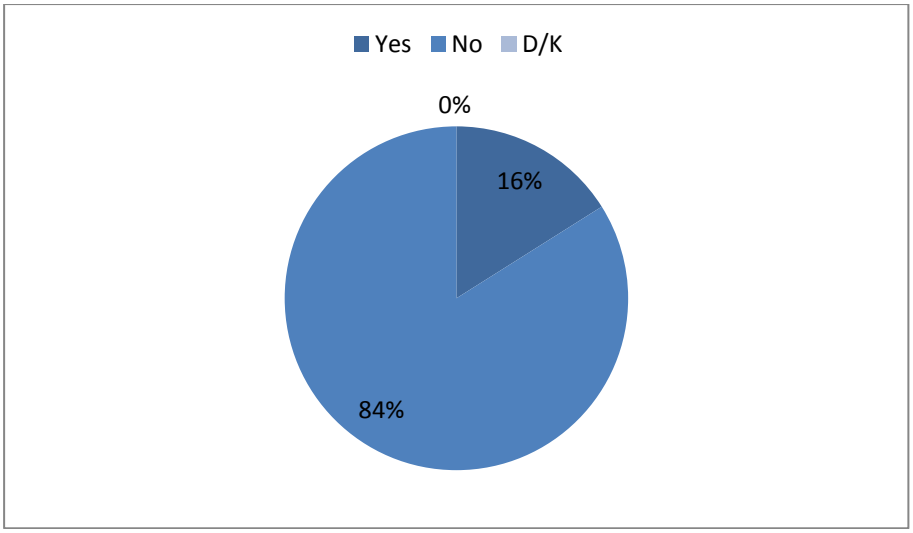


Figure 5.13: Questionnaire Findings: Have you ever experienced an interactive space or art installation before? N=81

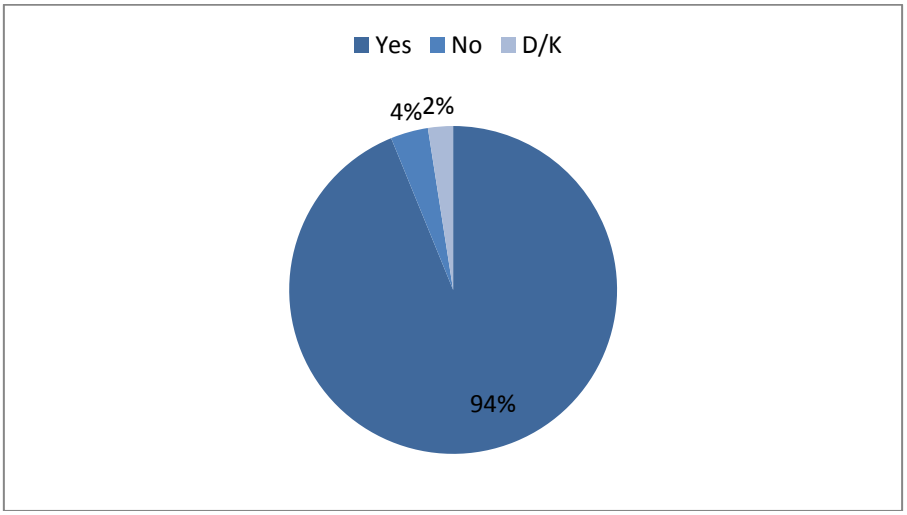


Figure 5.14: Questionnaire Findings: Do you believe the designs had a positive effect on the general mood of the public? N=81

89% believed that the element of fun is an added benefit (Figure 5.15) and 94% that temporary spaces benefit the public more as they will not get tiresome (Figure 5.16). These results in favour of the fun and playful experience indicate a genuine requirement for a new type of experience within the users' public space. Additional opinions given within question 16 led to encouraging comments such as having a 'positive effect,' 'mood changing,' 'offering something different,' being a 'conversation instigator,' improving someones' day because they 'met and talked to people that I wouldn't on a usual daily basis,' and being 'a very good way to let out pressure.' These opinions are in high favour of the aims of the project.

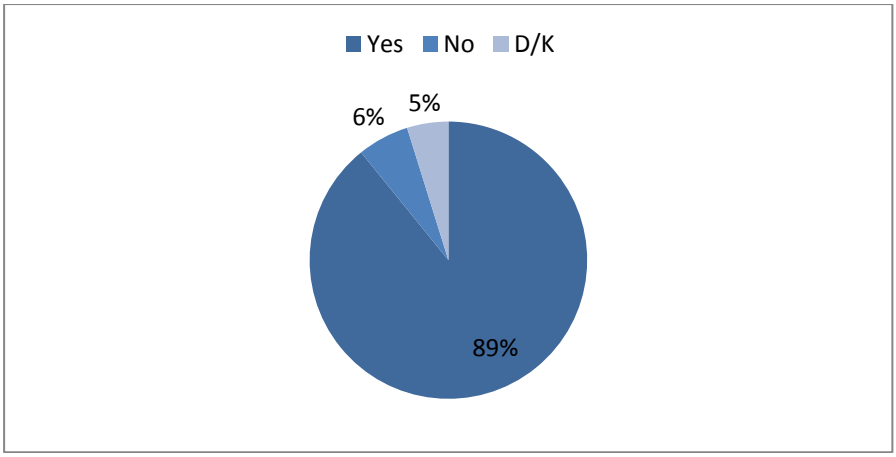


Figure 5.15: Questionnaire Findings: Do you believe that the element of fun and interaction within a space would be an added benefit? N=81

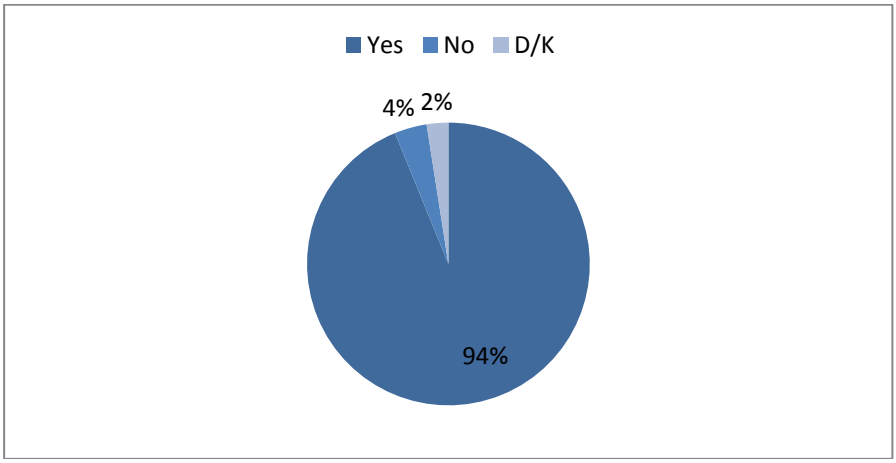


Figure 5.16: Questionnaire Findings: Over time an area/space can become boring. If a space was frequently transformed would this make a space more appealing? N=81

3.3.1.2 Summary

The survey results revealed that for these participants more fun and exciting public offerings are needed. Most significantly art and design in public space was seen as important but users were in favour of temporary designs. A comment related to mood suggested that users mood would only be heighted for a short while, this suggests that the notion of transient of mobile designs are a possible solution to be explored further. Follow on actions in relation to meeting new people were also commented on and this is a positive in increased sociability. Overall results were in favour of the playful experience; moreover suggestions for further design artefacts were prompted including the addition of colour and sound to accompany a design.

5.4.2 Observational Studies

Utilising the framework of interaction analysis aimed to review levels of user interaction and follow on opportunities; this section displays the gained data, analysis of findings and summaries for framework amendments. Design artefacts were reviewed using methods of tick charts (Appendix 3.10) and observational photography. As a supporting method to tick charts members of the design group were employed as 'cameramen' to document the experience for the output of visual observations, one camera was set up at each site, plus each member had a camera with them. The following section documents statistical data from the observational survey as well as visuals relating to the framework for interaction analysis seen in figure 5.17.

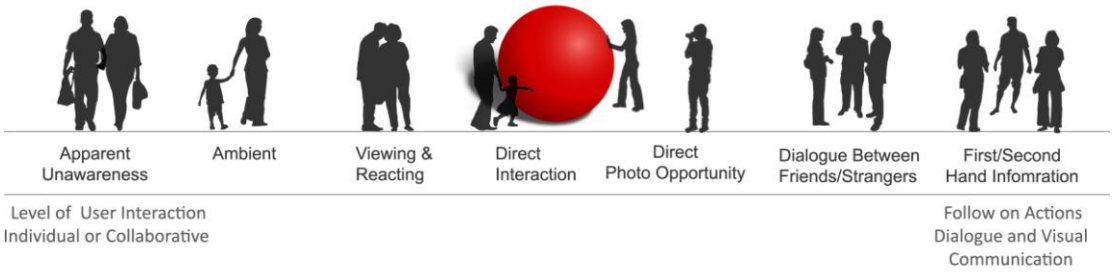


Figure 5.17: Framework for Interaction Analysis (Version 2)

5.4.2.1 Findings

Data revealed (Appendix 5.2) that over the course of the 2 hour observational period 154 subjects were witnessed within the two sites, performing one of the four levels of interactions. Figure 5.18 illustrates the comparative data found between the two sites in relation to individual and multiple levels of interaction. Behavioural mapping aimed to discover patterns in increases or decreases of user interaction and the utilisation of a bar graph allowed for visual comparison between both the individual and multiple experiences as well as between the results of the two designs.

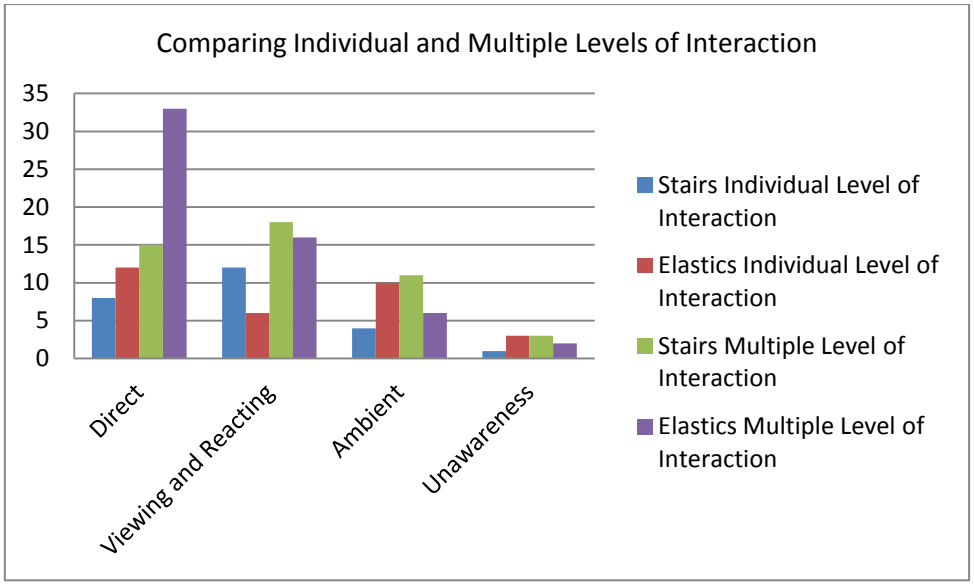


Figure 5.18: Comparing Individual and Multiple levels of Interaction. Total Number observed = 72 Subjects (stairway)/ Total Number Observed = 82 Subjects (elastics)/ Total = 154 Subjects

(a.) Direct Interaction: Both designs encompassed greater multiple interactions than individual (figures 5.19-21). Overall results illustrate that the Elastic installation had more participants at the direct interaction stage than the stairs. These results may have occurred as the stairs are a transitional area that are used to enter and exit the building, external factors such as users being on their way somewhere may impact on levels of interaction. 'Play permission' to enter the elastics site was clear to data collection and less ambiguous in terms of levels of interaction. Direct interaction on the stairs showed that more groups were inclined to interact rather than individuals, and within the elastics a surge in multiple interactions was witnessed, more than triple that of individual. An exposed site, even with play permission may be daunting for an individual to react alone, but within a group setting and the encouragement of peers it could be more inviting and once groups are seen participating it then invites others.

Figure 5.19: Elastic Installation: The Direct Individual Experience. *(Personal Image)*

Figure 5.20: Stairway Installation: The Direct Collaborative Experience. *(Personal Image)*

Figure 5.21: Elastic Installation: The Direct Collaborative Experience. *(Personal Image)*

(b.) Viewing and Reacting: Data results of viewing and reacting have the same outcome as direct interaction; multiple levels being greater than the individual. The stairs show a greater value of groups reacting rather than individuals, with the elastics the results illustrate that interactions were double with multiples over individuals. Observations revealed that this may be simple logic that between groups it is very easy to make others aware of a social experience or simply comment, where as an individual may appear ambient but in reality are having thoughts and opinions towards an experience that cannot be judged by others.

(c.) Ambient: Ambiance, the state of understanding the spatial environment but no further reactions to witness. The lowest level of ambiance was individuals on the stairs and the highest being groups on the stairs, these groups seemed to be aware of the spatial changes but chose to ignore rather than react. In relation to the elastics ambiance was seen more in individuals, as explained within viewing and reacting an individual may appear ambient but in reality are having thoughts and opinions towards an experience that cannot be judged by others.

(d.) Apparent Unawareness: was extremely low in all cases, less that 5 of observed participants in all categories were viewed as unaware. In relation to this result it is suggested that the design artefacts answered the aims of the investigation in heightening interactions within public space.

(e.) Follow on Actions: The two sites were analysed through three categories: the direct photo opportunity, dialogue between friends and dialogue between strangers (Figure 5.22).

Direct photo opportunities were witnessed at both sites, but more were encompassed at the elastics. This result suggests that the spatial setting was more private and had less traffic, thus inviting photographic interactions. Observations additionally showed that along with a direct opportunity for photography, users were also photographing others with the implemented designs.

The site of the stairs had a clear and overwhelming result of dialogue between friends. Groups usually climb the stairs together, providing a reason why. As a transitional area, strangers are less likely to stop and talk to each other. Dialogue between strangers was observed as a heightened state at the elastics site. Due to its proximity to the campus it allowed space for passersby to stop and create conversations.

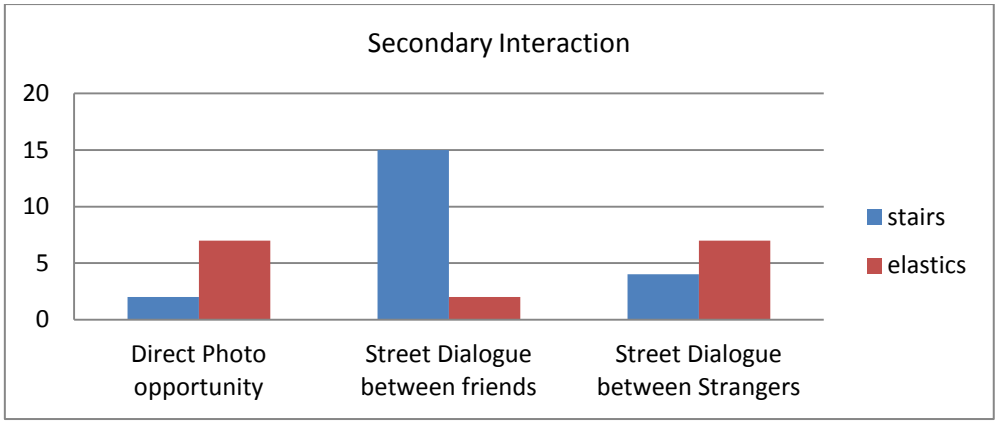


Figure 5.22: Secondary Interactions: Number observed = 72 Subjects (stairway)/ Number Observed = 82 Subjects (elastics)/ Total = 154 Subjects

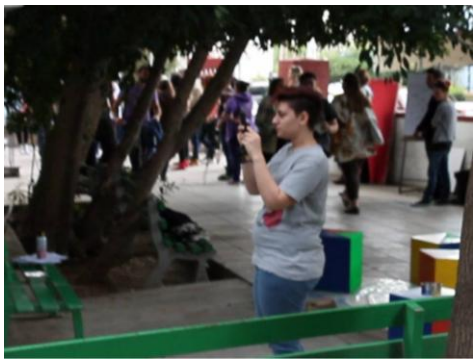


Figure 5.23: Follow on Actions Visual Communication: Direct Photo Opportunity . *(Personal Image)*

Figure 5.24: Follow on Actions Visual Communication: Secondary Photo Opportunity. *(Personal Image)*

Figure 5.25: Follow on Actions: Dialogue Between Friends. *(Personal Image)*

Figure 5.26: Follow on Actions: Dialogue Between Strangers. *(Personal Image)*

Active participation on various levels was witnessed. Figures 5.19 – 5.26 outline interactions and follow on actions at various levels. The 'no rules applied' approach allowed users to explore their creativity and users of various ages interacted at different levels. The excitements additionally lead to exposure on social media (Figure 5.27). In comparison to

pre-design implementation spatial observations the designs instantly increased the use of space and improved sociability, even conversations between strangers or merely acquaintances were witnessed.

Figure 5.27: Follow on Actions: Transfer to Social Media.
(Image Courtesy of Maria Magos)

5.4.2.2 Summary

Comparisons of individual and multiple levels of interaction are viewed as patterns in increases and decreases in spatial usage. When comparing the interaction outcomes it can be concluded that substantial direct responses to the implemented artefacts were seen as well as the state viewing and reacting which led to follow on actions. When analysing the number of users observed the total was 154 over the 2 hour period, but data results (Appendix 5.2) outlines that within the elastics installation there was a greater number of interactions than number of users. This was due to some of the participants interacting on multiple levels. For example a participant was documented viewing and reacting, then moved to the direct interaction phase.

It was clear after analysis that four levels existed within the realm of playful interactive design for public space. User choice is viewed as fundamental to the creation framework, without user choice, negative reactions may occur. In the case of observations with the implemented designs, user choice allowed for participants to interact to a level of which they felt comfortable.

It is important to point out that data collection methods completed by hand and onsite have the potential to have missed data during the observation period; additionally any observational study has the potential to misconstrue the actions of somebody as suggested by Bell (2005). In the case of the observational study the difference between viewing and reacting and ambiance may not be 100% accurate. Even if video cameras were employed it

answers the question of being able to successful note each subject but cannot fully document the difference between stages. Additionally this can be said for the evaluation of dialogue between friends and strangers, it is impossible for the observer to know exactly who is a friend, acquaintance or stranger.

The major issue remaining post analysis is the importance of levels of interaction. Relating findings to current literature (Forlizzi and Fords, 2000; Vogel and Balakrishnan, 2004; Whybrow, 2010; Bilda, 2011; Candy and Edmonds, 2011; Brown, 2014; Steyn, 2014 and Muller et al, 2010) various levels will continue to exist in any interaction within public space, we cannot force anyone to directly interact. In agreement with (Waltz, 2010) the designer can only offer play permission to be undertaken at the users' discretion. As a result the importance concluded from the behavioural mapping and level of interaction analysis is the discovery of follow on actions. The framework has the potential to be built upon to offer designers a tool to understand what happens after the playful experience and how onward transfer of a design may occur. As suggested by Persckhe (Appendix 4.2) for many the intellectual interactions at the viewing and reacting stage may prompt an increased sense of place and social experience rather than that of someone who physically interacted. In this sense it is not important to the study to define these interactions further, but to promote onward transfer of interactions at various states: physical, intellectual, conversational, visual and technological. This allows a maximum amount of users to come into contact with increased levels of experience and sense of place.

5.4.3 Expert Interview, Interview 3: Antonis Mitsingas, Social Psychologist

The third interview carried out for this study was a follow up interview with Antonis Mitsingas for the purpose of building upon current findings. The interview process was arranged and Antonis was invited to be present to observe the events, the designs and subsequent interactions. Interview questions aimed to be open ended to promote discussion (Appendix 3.3), aiming to achieve professional follow up on:

- The overall design experience
- Artefact implementation
- Levels of interaction
- Sociability of users
- Sense of place

5.4.2.1 Findings (Appendix 5.3)

The overall design experience: Antonis began the interview by stating that the event made a big difference. Various levels of creativity and curiosity were displayed which increased as the day went on. His suggestions were that creativity and curiosity leads to fulfilling personal needs. He relates the playful experience to that of a walk on the beach, a method that we would use to relax and let out pressure. The walk on the beach is an event that can change our whole mood. We need this walk to stimulate our curiosity and creativity, just like the offerings of the event.

Artefact implementation: In Antonis words, "I was also amazed and surprised by the elastics in the trees, I pass through that place 1 – 2 times a day and I never imagined you could make that place part of a design and then the process of the design." In further discussion about the stair implementation similar comments were heard in the utilisation of the space.

Levels of interaction: Antonis immediately questioned: how to play with the given designs during the first encounter with the experience. After observations of all ages from himself to children, teenagers and young adults he felt like doing more, the more you see it, the more stimulation was created for participation. He stated that at the beginning there was an impression of the designs, and then he saw people observing, and then interacting. Later on

he noted that he would play more and more and finally at the end when it was gone, noting that when it wasn't there any more he even felt a notion of sadness for the experience that had once lived. In terms of stimulation between 1-10 he believed that the projects reached an 8, stimulating interactions with users, which then stimulated the idea to bring children to experience the designs. (Antonis invited a local school class to visit the space without disclosing what was happening)

In terms of viewing and reacting Antonis noticed that he saw users watching the participants who were directly interacting, but believed that it was important to say that maybe the viewing and reacting go on to surpass what the previous direct users have done in order to be better than the one before.

Sociability of users: The discussion turned to the notion of the design artefact becoming the catalyst for sociability and increased use of public space, in response to this Antonis advised that: "What you are presenting is true; your stimulus can be created with or through the design in order to create a transaction. When we stimulate a group talking about the design, they will then go on to discuss surrounding issues and then eventually about themselves. It happens when one is alone, or in groups, they talk about the stimulus and then the people go to the design."

Sense of place: In relation to the concept of place creation Antonis saw that place was created and that it became a place where you can experience. Noting that: "People stopped to take note, interact, play and definitely noticed. People who did not need to pass through the space went in."

During the interview process Antonis continued to make valuable conclusions and recommendations to the study suggesting: first, to completely hide any observations, second, incorporate sound with light, third, a lot of items should be included (Or a larger object), fourth, the encouragement to play more by having an outcome, fifth, interviews on the street could also give interesting feedback and lastly he was in agreement of current methods.

5.4.3.2 Summary

The interview left the study with invaluable professional opinions on the onward transfer for the investigation in terms of usability, sociability and the production of further design artefacts. The suggestions could be taken to amend and build upon the existing frameworks for final evaluation.

The results demonstrate that the project was understood in terms of its aims and objectives and even for a low budget project it was successful in the creation of place. Interaction was witnessed on various levels and the project was seen to prompt curiosity and creativity. A significant finding of Antonis personal experience was that upon viewing the space and the designs, he then invited others to experience. This is a consideration for the development of the framework for interaction analysis and how word of mouth and invitation may be incorporated.

Antonis final opinion stated that “the projects should be created at least 2 – 3 times per year within the same spaces; people will enjoy them and look forward to the next interventions. Through different designs there will always be a surprise. Even creating something on the pavements could create change. It also depends on budget, but pedestrian areas are also a good suggestion.” In relation to this comment and the overall scope of this body of research the framework for the creation of the playful interactive experience within public space aimed at experience output has the potential to be reutilised an infinite number of times by others in order to achieve this as a future recommendation of the study.

5.4.4 Designer Focus Group Feedback

Designers employed during the 'let's intervene' project were briefed that a discussion would take place post design implementation. The Focus group aimed to receive feedback on the 'let's intervene' project (Appendix 3.4). The discussions spanned 5 categories:

- The development of frameworks for creation and evaluation
- The design process
- The implementation procedure
- Data collection methods
- Conclusions and recommendations for second stage testing.

5.4.4.1 Findings (Appendix 5.4)

Development of the framework for creation: In relation to the framework for creation it was viewed as having very specific rules for experience output which promotes an easy to follow brief but parallel there is a display of overlapping categories that could cause confusion. The overlapping categories made it difficult to follow in some instances and suggestions were to simplify, making it more user friendly as a design tool. In addition terms across some categories were similar especially in the section of accessibility. Further suggestions were to have headings specifically defined with leading words beneath to prompt the designer. In an overall conclusion designers believed it helped them to concentrate on the site in relation to the design rather than having to spend extra time researching what is playful design and its properties.

Evaluate the design process: The framework for creation was seen as an extension to the project brief. The process itself became easier at the idea generation stage as the framework enabled the editing out of ideas which didn't fit the brief. For example, if a design couldn't be a co-operative experience then it was discarded immediately. A few of the designers were doubtful of the experiential outcome of their designs, finding it difficult to trust that their design (stairs) would create successful playful interactions. They were subsequently surprised to see how much people enjoyed the experience.

Feedback on the implementation process: Designers stated that they saw many people interacting, many questions were asked and people seemed happy and excited. They continued to tell stories of fun experiences witnessed. In relation to the elastics one comment was that it reminded someone of toilet paper, and that this had a negative effect on them wanting to interact. With an overwhelming positive response it is interesting to see a negative point of view from the view point of design association. Discussions turned to interaction with strangers, the author as the interviewer commented that "I spoke to more people from different departments and backgrounds in one day that I have in 4 years" which was instantly agreed to. In an overall conclusion to the events the designers saw that almost everyone gave a comment suggesting that life had been given back to the campus and that it was stimulating, people generally seemed excited that there was something new that they could engage in and talk about.

Follow up on data collection methods: Designers noted that it was difficult to fill in the tick charts when a large group of people entered the space, agreeing that if this was done again it would be better to set up cameras and analyse the data later or that more people should be employed on site working together to collect the data. When discussing the framework for interaction analysis within pilot testing designers were confused with the parameters of 'subtle' and 'view and reacting.' They stated that they saw people directly interacting, viewing and reacting, even people who were ambient and unaware but couldn't place subtle. Comments surrounding follow on methods were based on photography, until now the framework has highlighted direct photography but designers saw people not only taking photos of the design themselves, but also photos with people the objects and selfies. They also pointed out that photos had been uploaded to social media.

In relation to questionnaire surveys, an onsite interview style questionnaire was seen as working better, as anyone filling the questionnaire could enquire about the subject matter to be confident in their answers as this is something new.

Give conclusions and recommendations for second stage testing: Designers were asked what they would recommend if the project was to be done again, they suggested:

- It should be right in the middle of the city – somewhere like Ledra Street[16] so even more people can see it.
- Have a bigger budget for better materials.

[16] A pedestrian shopping street in the capital Nicosia

5.4.4.2 Summary

The results of the designer feedback reveal that the experience was not only a success for the public but also an overall enjoyable project for the designers. It allowed for valuable suggestions in relation to the frameworks for creation and interaction analysis, as well as proposals for more efficient data collection methods.

For the successful working of the framework creation a further simplified version is suggested with more specifically defined headings and prompting words to create a more valuable tool for the utilisation of others. Designers pointed out that they had trouble trusting the outcome of their designs despite fitting the brief. In future the framework should be accompanied by working examples so as to give the designer confidence in the tool.

The focus group gave valuable suggestions for data collection methods, in future experiments video cameras should be set up to record user actions and movement so that data can be taken at a later date to avoid mistakes when large numbers are present. Furthermore, questionnaires should be less formal, suggesting an interview style. Moreover for the utilisation and better working of the framework for interaction analysis it was put forward that follow on methods of photography should be reviewed and to add a follow on to social media.

5.5 Design Artefact Evaluation

Thus far design artefacts have been explored as tools for increasing social interaction and the catalyst for place creation through various quantitative and qualitative data collection methods. Both artefacts were designed utilising the first stage framework for the creation of playful and interactive experiences within public space. Designs have been evaluated in relation to the parameters of the framework linking together findings from the various data collection methodologies to provide the study with feedback on framework implementation and the successes and failures of the projects. Findings will inform the research with the necessary amendments for the framework for second stage evaluation.

Accessibility: The University campus site was chosen in relation to framework suggestions; it was a safe, walkable, and convenient setting which during the installation day encompassed a neighbourly atmosphere which promoted sociability of the public and sense of place. Antonis Mitsingas was in agreement that others were stimulated to conduct conversations with others and that the place created became a place where you experienced. People stopped to take note, interact and play. People who did not need to pass definitely did. Focus group, questionnaire results in relation to mood and excitement, behavioural mapping of users who directly interacted or viewed and reacted also agree with this statement. Future recommendations of the study concluded that a site that was truly felt as public would be a better testing ground for the study.

Design Communication: Observations revealed that users felt comfortable within the new spatial setting. The line within the stair installation was familiar and many used the lines in a track like fashion. The red colour both attracted and surprised users, no one was seen as uncomfortable, but some seemed confused to why the lines had been applied thus prompting questions about the new spatial aesthetic. In relation to the elastics installation, the division of space was attracting, but for some they felt a notion that they could not enter, but as they witnessed others entering they felt the permission to do the same. In both designs observations and professional opinions saw a domino effect as the day progressed, people would see, later react, and transfer information, which gave incentive for others to interact. In relation to the parameter of communication it is suggested that methods of communication heightened as the day went on.

Play Permission : or the incentive to interact was witnessed in both designs. Initially their offerings were active and fun, which applied no rules, allowing the public to discover and explore not only the installations but also their own creativity. Both were physically active and as users investigated revealing that they had been given the permission to have fun. Questionnaire results suggested the utilisation of more colour and the further use of sound could attract even more users in future experiments.

User Interactions: witnessed during the design experiments were viewed on various levels, thus answering the framework brief. Observational behavioural mapping displayed that both physical and intellectual levels were reached in individual and collaborative ways. Social activity was heightened and exchange and communication in both dialogue and visual methods of communication were explored. Users actively participated in the playful installations allowing for increased sociability and sense of place within the forgotten sites of the campus. Additionally interactions with the designs continued as the images were uploaded to social media, leaving an imprint of the spatial offerings which were temporarily installed.

User Reaction: aims for instinctive user responses, for good or bad. The analysis of design communication, play permission and user interaction all suggest that physical reactions to the designs came later as a consequence of viewing and reacting either the design artefact itself or others using the design. Observations, questionnaire results and professional opinions all suggested high percentage positive reactions with few negatives to the overall experience. Most participants appeared to enjoy a pleasurable experience. The notion of captivation is to hold users attention, within the stair installation it did not appear to hold attention for a long period of time, but the play permission given didn't see length of interaction as an important factor due to site selection.

Design Suitability: In answer to design suitability both designs were diverse, to each other and any spatial offering witnessed. Both were relatable in crossing multiple backgrounds, and allowed for all ages, cultures, social status and genders to participate. The designs also allowed user choice, allowing interaction to level and length of time each individual would feel comfortable. The flat material applied to the stairs allowed users to walk on the stairs as usually, permitted their interaction or not. For the site of the elastics, users were still permitted to walk around the space but the playful elastics invited users to participate in its

offerings. In relation to participants with a disability the interactive designs allowed not only for physical interaction but for various other levels of viewing and reacting and intellectual follow on methods. The questionnaire revealed that 86% of the public would like the designs to remain permanently (Appendix 4.6), it may be concluded that they were suitable for the given spaces as such favour towards the designs were shown.

Level of Permanence: Both designs occurred as a one day event, the permission of the university in line with the aims of the project supported this. Upon observation the university asked permission for the elastics installation to remain as a demonstration of work to the ministry of education on their visit the following day. Although unofficially observed, general observations showed that the public did not encompass the same element of surprise on the second day. This strengthens the notion that a temporary short lived event is a requirement in the playful experience. Although 86% of the public would have liked the designs to remain permanently 94% believed that a space which transforms frequently would heighten their sense of place. Relating to level of permanence a mobile nature is suggested, the elastics have the potential to be a low-cost and easily mobile and modular design; they can be implemented into any site with supporting elements. Unfortunately due to floor placement the stickers were destroyed and were unable to be reused, but the idea has the potential to be taken forward and created in a mobile way.

5.5.1 Summary

The analysis of design artefacts provides an exciting insight into the nature and effects of playful interactive design. Largely rewarding outcomes of the project were evident in the results revealed by public opinion. An exceptional result of 84% of the surveyed public believed that the installations had a constructive effect on their day and would like to see the designs remain permanently, while 94% agreed the designs had positively affected the mood of the surrounding community. Highly encouraging comments described the project as ‘mood elevating’ and ‘entertaining,’ stating that ‘the spaces became more attractive and appealing, the general atmosphere was enhanced, and lost spaces were used.’

Observations provided statistical data outlining user interaction; both case studies revealed improved spatial interaction after implementation of the intervening designs. Users were observed using the evaluation methods based upon the *‘framework for interaction analysis diagram.’* A large amount of users directly interacting together with viewing and

reacting were observed, where as unawareness and ambience were on a lower scale. An increased number of users now entered and embraced the spaces. Photo opportunities were witnessed, permitting for further visual interaction with the space after users moved on. Images of the playful experiences were uploaded onto social media sites, demonstrating that after the designs removal users were able to access a memory of these once exciting places.

The social dynamics between strangers significantly improved during the intervention day, data was collected outlining increased street dialogue. Questionnaire results illustrated that users discussed issues of sociability, explaining that 'they had met and interacted with people that they would not usually do on a daily basis.' The installations not only prompted enquiries surrounding the meaning of the interventions but opened discussions to wider issues of the spaces within the University. Through the introduction of playful experiences clear memories whether positive or negative, were implanted within the users, the redefined spaces of the campus now held personal and unique memories for all.

5.6 Framework Amendments

Quantitative and qualitative data collection methods employed during this stage of the research allowed for gaps and overlaps to be identified. The following sections will discuss amendments in relation to data findings (Table 5.2).

Table 5.2: Data Findings for Framework Amendments

Questionnaire	Observational Studies	Professional Interview	Designer Feedback	Design Artefact
Large Sites	Removal of Subtle interaction	Hide Observations	Middle of the City placement	A more public site
Use of Bold Colour	Addition of: Secondary photography	Incorporate sound and light	Larger Budget	Further follow on actions
Mood Heightened only for a short while	Addition of: Social Media	Many play objects or larger object	Review levels of photography	Level of captivation to be reviewed
Addition of music	Video Recording for post data analysis	An 'outcome' of play	Addition of social media	Consider disability awareness and safety
Invite the public	Interview Style questionnaires to cooperate results	Street interviews	Simplified Framework	
In favour of technological approach			Specifically defined headings	
			Add working examples to framework	
			Less formal questionnaire	

The primary amendment is shortening of terms within the framework for the construction of the playful interactive experience as suggested by the designer focus group. Overlapping terms have been combined to make the framework more concise. The final framework aims to be available in two forms: a. Short version, including main headings and prompting terms (Figure 5.28) b. Long version, including a description of each section heading followed by a one line explanation of prompting term (Appendix 5.5).

The short version is re-designed to become user friendly and circular shape chosen to allow the designer to understand that each parameter works hand in hand for the central goal of place creation, promotion of personal creativity and heightened sociability. A linear format as the table before may suggest that one parameter is more important than the other. Additionally, the remaining terms of this section have been re-defined as suggestions

of the design focus group mentioned too many overlaps in terms and definitions. Appendix 5.6 reveals shortened definitions for a clearer understanding. Following suggestions, future recommendations of the study is the incorporation of existing designs within supporting documents such as a guide for designers. A detailed explanation of framework parameters can be found in appendix 5.5. A description of framework amendments is displayed below:

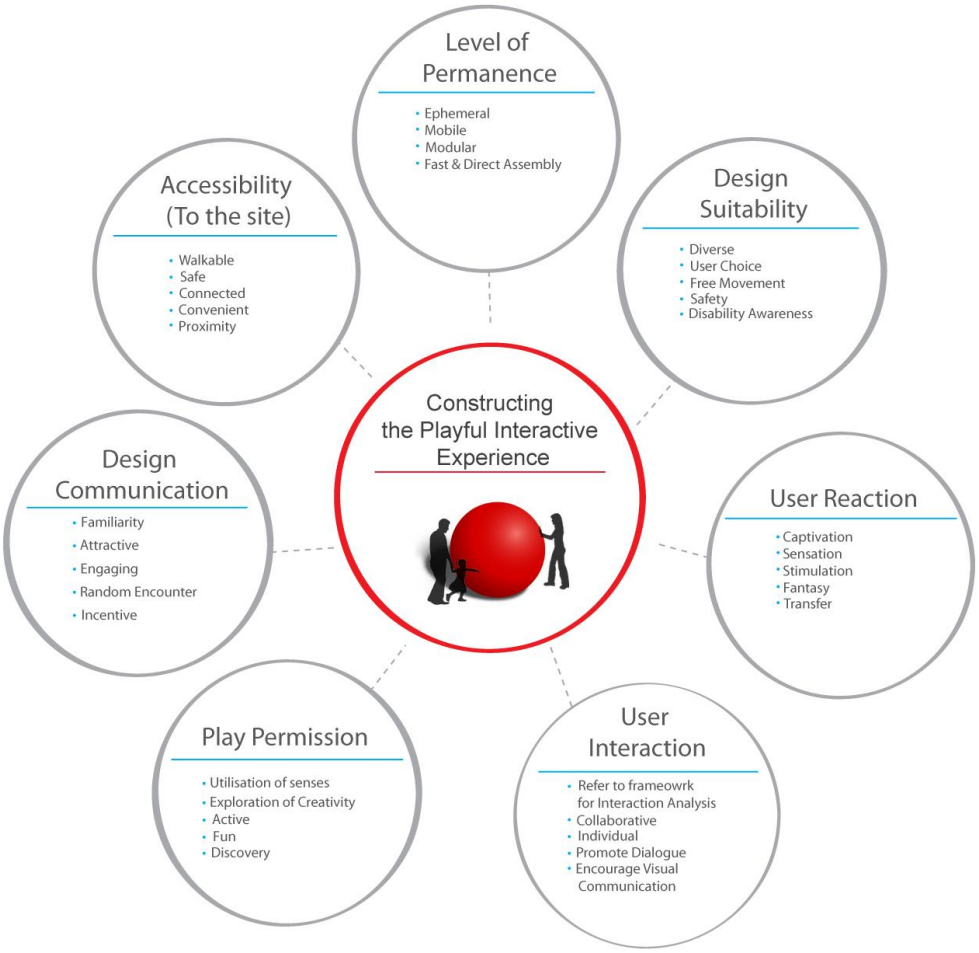


Figure 5.28: Re-designed Framework for the Creation of the Playful Interactive Experience

Accessibility (to the site): Research suggests that a place which cannot be reached and entered easily may compromise the design experience from the first instance. Accessibility remains crucial but the term 'neighbourly' has been removed. A neighbourly atmosphere is an experiential output of a sense of place which is a requirement incorporated within the framework aims.

Design Communication: If a design is not comprehendible, users will fail to interact. Similarly, if the framework design and principles are not defined correctly, this may result in an 'unhelpful tool' for designers. The simpler terminology allows freedom in interpretation whilst utilising the prompting words towards the goal of the framework. 'Welcoming' has been removed, as a feeling it has been prompted through other variants of the framework, attractive, engaging and play-permission, as such it was viewed as an overlapping parameter. 'Transfer' has been removed and is now placed within user reaction. Transfer was viewed as a follow on to initial communication, as such was more fitting as a principle of a reaction.

User opinions suggested that the use of bold colour was a successful method of the 'attractiveness' of a design. The framework does not intend to influence the outcome of design aesthetics – but to suggest methods and principles for successful experiential output. As such the use of bold colour has been added to the definition of attractive within the long framework, explaining that 'the playful experience must be attractive in terms of its final aesthetic such as applying a bold colour and materiality.' Similarly many play objects or larger entity was also suggested, this outcome is site dependant and could possibly affect designers' aesthetic, consequently this has been left as a future recommendation or avenue of testing for the investigation.

Play Permission: should be offered through the design artefact as a catalyst for deeper engagement and interactivity with themselves, the object, the spatial setting and others. Gaps in research suggested the utilisation of sound and light to heighten experience. This has been added to utilisation of senses. Within play permission the notion of external stimuli was an issue of confusion, it related heavily to the overall theme and definition of play permission. An external stimulus is the playful offering created through the framework, as such the notion has been removed.

'Exploration' has been combined with 'creativity', the overall aims allowing freedom of creativity through the act of play, as such to avoid overlapping terms the parameter of 'exploration of creativity' has been added, suggesting that the designer should invite the user to examine the spatial experience through play mediums in order to explore personal creativity for experience output. The conventions of 'Active', 'Fun' and 'Discovery' remain as important levels of engagement and play permission with more precise definitions.

User Reaction: The principles of user reaction have remained with shortened definitions. The parameter of instinctive response has been amended to one word 'instinctive' as by definition it is to react without thinking. The term is relatable for any part of the play experience whether it is initial response or a follow on action.

Gaps in research suggested that an encouragement to play more would be to have a play outcome. Personal opinions, in line with previous research findings have suggested that ambiguity in play – or a no rules applied approach is more inviting to the user. As not to discredit research findings within the notion of captivation the framework suggests that "to captivate is to attract and hold the interest of the user with the possibility of a playful outcome." As such the playful outcome will be left to the interpretation of the designer. The playful outcome is experience but designers may take this further to suggest a physical change in space or action, for example 'The Red Swing' project, a playful outcome is the swinging action itself or in the case of Candy Changs 'Before I Die' project the outcome being collaborative public creation.

Furthermore the principal 'transfer' has been added to user reaction, transfer, the stage after interaction has the possibility to continue to post-interaction phases. The original placement was in the section of design communication, but as an action defined 'transfer' is the movement to something else which appears more suited as a user reaction to the given experience.

Design Suitability: Design suitability was a section of the framework which held the least principles prior to design testing. It suggested that the playful experience be both diverse and allow user choice. These two parameters remain with the addition of: first, *free movement,* the idea that no transitional area should be blocked or distributed to the point that users who do not wish to participate are forced to. Second, *safety,* the safety of materials, construction and removal, suggesting that public safely should be at the forefront of any design. Third, *disability awareness,* it was made apparent that disability considerations should be applied in any public design; this is supported by former parameters in safety and spatial movement.

Level of Permanence: discusses the length of time and nature of a playful experience. Research suggests that once a design has been implemented into the public realm for a significant amount of time its quality of interaction will decline. The notion of a temporary and transient nature remains but they seemed to overlap in definition they have been

combined and renamed as ‘ephemeral’ to be an experience of surprise and discovery for a short time. Mobile nature has been shortened to ‘mobile’ and the notions of modular and fast and direct assembly have been added. The design conclusions of the elastic installation prompted the idea that a modular experience allows adaptation to different sites, allowing for not only a mobile experience but an ever-changing playful experience which allows the public to visit time and time again, in new places with different variations. The idea of a fast and direct assembly is in line with the professional opinions which suggest the hidden nature of the events. A fast and direct assembly allows the public to have as little contact as possible before viewing its full potential.

User Interaction: is the documentation of the reciprocal actions between the user and the playful experience and/or other users. The framework utilises the framework for Interaction Analysis. The framework of interaction analysis aims to promote the process of the exchange of social activities which parallel with the design experience as well as various levels of interaction with the design artefact. These principles are important to the frameworks overall aims, but research findings concluded that it was difficult for the designers to evaluate these suggestions and incorporate them within their designs as the previous sections of the framework are used as promotions for these outcomes. As such by referring to the framework for interaction analysis, designers are able to utilise a further tool allowing them to understand that the playful interactive experience should encompass both individual and collaborative experiences at various levels, as well as follow on actions of both dialogue and visual communication (Figure 5.29).

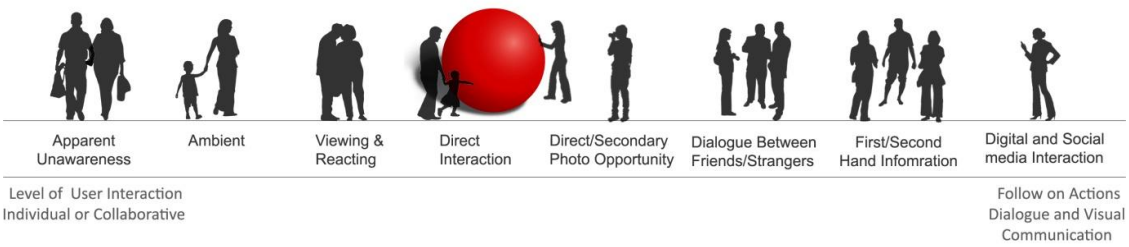


Figure 5.29: Basic Framework for Interaction Analysis (Version 3)

The framework for interaction analysis displays a linear flow, showing the stages and possibilities of interactions. Conclusions clearly promoted that there were secondary methods of photography witnessed. Users were not seen purely photographing the design object itself, but also photographing others with the object. Additionally, these photos were

then transferred to social media prompting a further follow on actions. Table 5.3 is included to document the amendments between first stage and second stage frameworks for the construction of the playful interactive experience, outlining their modifications and rationale for change.

Table 5.3: Amendments: Framework for the Construction of the Playful Interactive Experience

1st Stage Framework	2nd Stage Framework	Rationale for Change
Accessibility (To the site)	**Accessibility (To the site)**	
Walkable	Walkable	
Safe	Safe	
Neighbourly		Designer Feedback revealed that many terms overlapped, as a result, 'neighbourly' has been removed. A neighbourly atmosphere is an experiential output of a sense of place which is a requirement incorporated within the framework aims.
Convenient	Convenient	
Proximity	Proximity	
Connected	Connected	
Design Communication	**Design Communication**	
Familiarity	Familiarity	
Attractive	Attractive	
Engaging	Engaging	
Random Encounter	Random Encounter	
Incentive	Incentive	
Welcoming		Designer Feedback revealed that many terms overlapped, as a result, 'welcoming' has been removed, as a feeling it has been prompted through other variants of the framework, attractive, engaging and play-permission.
Transfer		'Transfer' has been removed and is now placed within user reaction. Transfer was viewed as a follow on to initial communication, as such was more fitting as a principle of a reaction.
Play Permission	**Play Permission**	
Utilisation of senses	Utilisation of senses	
Creativity	Exploration of Creativity	Designer Feedback revealed that many terms overlapped, as a result, 'exploration' has been combined with 'creativity', the overall aims allowing freedom of creativity through the act of play, as such to avoid overlapping terms the parameter of 'exploration of creativity' has been added.
Active	Active	
Fun	Fun	
Discovery	Discovery	

External Stimuli		Within play permission the notion of external stimuli was an issue of confusion to the design group, it related heavily to the overall theme and definition of play permission. An external stimulus is the playful offering created through the framework, as such the notion has been removed.
Exploration		Designer Feedback revealed that many terms overlapped, as a result, 'exploration' has been combined with 'creativity', the overall aims allowing freedom of creativity through the act of play, as such to avoid overlapping terms the parameter of 'exploration of creativity' has been added.
User Reaction	**User Reaction**	
Captivation	Captivation	
Sensation & Pleasure	Sensation	
Stimulation	Stimulation	
Fantasy	Fantasy	
Instinctive Response	Instinctive	Designer Feedback revealed that many terms overlapped; as a result, the parameter of instinctive response has been amended to one word 'instinctive' as by definition it is to react without thinking.
	Transfer	The principal 'transfer' has been added to user reaction, transfer, the stage after interaction has the possibility to continue to post-interaction phases. The original placement was in the section of design communication, but as an action defined 'transfer' is the movement to something else which appears more suited as a user reaction to the given experience.
Design Suitability	**Design Suitability**	
Diverse	Diverse	
User Choice	User Choice	
	Free Movement	Observations of design artefacts promoted, 'free movement' has been added, the idea that no transitional area should be blocked or distributed to the point that users who do not wish to participate are forced to.
	Safety	The process of research for Design promoted the addition of 'Safety,' the safety of materials, construction and removal, suggesting that public safely should be at the forefront of any design.
	Disability Awareness	Observations of design artefacts promoted, disability awareness, it was made apparent that disability considerations should be applied in any public design; this is supported by former parameters in safety and spatial movement.
Level of Permanence	**Level of Permanence**	
Temporary	Ephemeral	The notion of a temporary and transient nature remains but they seemed to overlap in definition they have been combined and renamed as 'ephemeral' to be an experience of surprise and discovery for a short time.
Transient		See Above
Mobile Nature	Mobile	Designer Feedback revealed that many terms overlapped; as a result, mobile nature has been shortened to 'mobile'

	Modular	Both design artefacts had the potential to be Modular, analysis and observations promoted the idea that the designs held the potential to be implemented again within different site. Consequently 'Modular' was added.
	Fast &Direct Assembly	Due to public surprise of the let's intervene events a 'Fast &Direct Assembly' was added to hide observations from the general public to support a surprise encounter.
User Interaction (Refer to framework for Interaction Analysis)	**User Interaction (Refer to framework for Interaction Analysis)**	
Individual	Individual	
Collaborative	Collaborative	
Promote Dialogue	Promote Dialogue	
Encourage Visual Communication	Encourage Visual Communication	Due to observational Conclusions and Focus Group Feedback the levels and Methods of Photography are broadened in relation to types of photography and transfer to social media.

5.7 Summary and Conclusions

Conclusions of research for design gave insight into modifications for larger scale framework evaluation. Three data collection methods advised that further exploration should be within large sites in the centre of the city. Three methods also suggested the questionnaire should be less formal and should be approached as interview style questionnaires, to allow the public to feel more comfortable in their answers.

Professional opinions proposed hiding all observations from the public, in line with the ethics of this research; this will not be possible as the public must be informed about data collection for the purposes of academic research. The invitation of the public to the event is also one of a future recommendation, this research aims to find out the impact of a surprise design within the public realm, future studies have the possibility to investigate the difference in interactions between an invited and non-invited event. Designer feedback additionally suggested a larger budget, as the framework aims to be utilised both as a tool for learning experience creation (within the classroom setting) and to the professional designer, it is inappropriate to give budget requirements especially as successes were observed through low-budget implementations of 80 Euros per group. The budget therefore should be pre-determined and worked around while proposing playful designs based on framework suggestions.

Finally, questionnaire results showed that 67% of the public thought that technology implemented into their public spaces would be an added benefit. As data findings are in agreement that a short term placement is the correct solution for the playful experience the

issue of technology should be linked to more permanent public spaces especially since this investigation aims to bring participants back to a basic state of being through traditional play methods. An investigation into technological play solutions can also be recommended for future studies.

The overall aim of chapter 5 was to implement parameters of the framework for the creation of playful interactive experiences. Multi-methods have been employed, firstly testing the framework through a design for research process resulting in design artefacts, secondly, implementing artefacts into a suitable setting as a surprise for the public, thirdly, testing the strengths and weaknesses of the framework through various methodologies, thus gaining valuable comparative data and public opinion. Lastly, the drawn conclusions aid framework amendments for research findings and onward evaluation. Furthermore, Chapter 5 allowed for the development of the framework for interaction analysis. The investigation was able to comprehend suitable levels and possibilities of follow on interactions with play permission in the public realm. Chapter 5 has indicated that the playful interactive experience has been successful thus far in increasing social and spatial interactions within an environment which encompassed a level of control. Chapter 6 continues to evaluate revised frameworks within the wider public realm demonstrating further comparable data for final framework amendments, research outcomes and contributions.

Chapter 6

Framework Evaluation

6.1 Introduction

Research findings thus far suggest that the 'playful interactive experience' is the implementation of participatory designs or public interventions, where all of society is free to be involved, allowing each passerby to impulsively, partake or simply observe an out of the ordinary, ephemeral experience. The playful experience allows the general public to participate in an experience which may have previously been implemented into gallery or invited situations. It is usually one of humour and play permission which unexpectedly intervenes with the usual setting aiming at increased user experience of everyday surroundings (Figure 6.1). Following research for design displayed within chapter 5, chapter 6 demonstrates an evaluation of research findings (frameworks).

Figure 6.1: Playful Interactions. *(Personal Images)*

Two major design projects fitting the brief of the playful interactive experience will be displayed. Research evaluation methodologies are divided into three phases to assess the impact of the playful experiences seen in figure 6.2. First, *pre- implementation:* Site observations, Behavioural mapping, Focus groups opinions, second, *during implementation:* Site observations, Behavioural mapping through video recording, Onsite interview style questionnaire and lastly, *post implementation:* Expert interview and Focus group feedback.

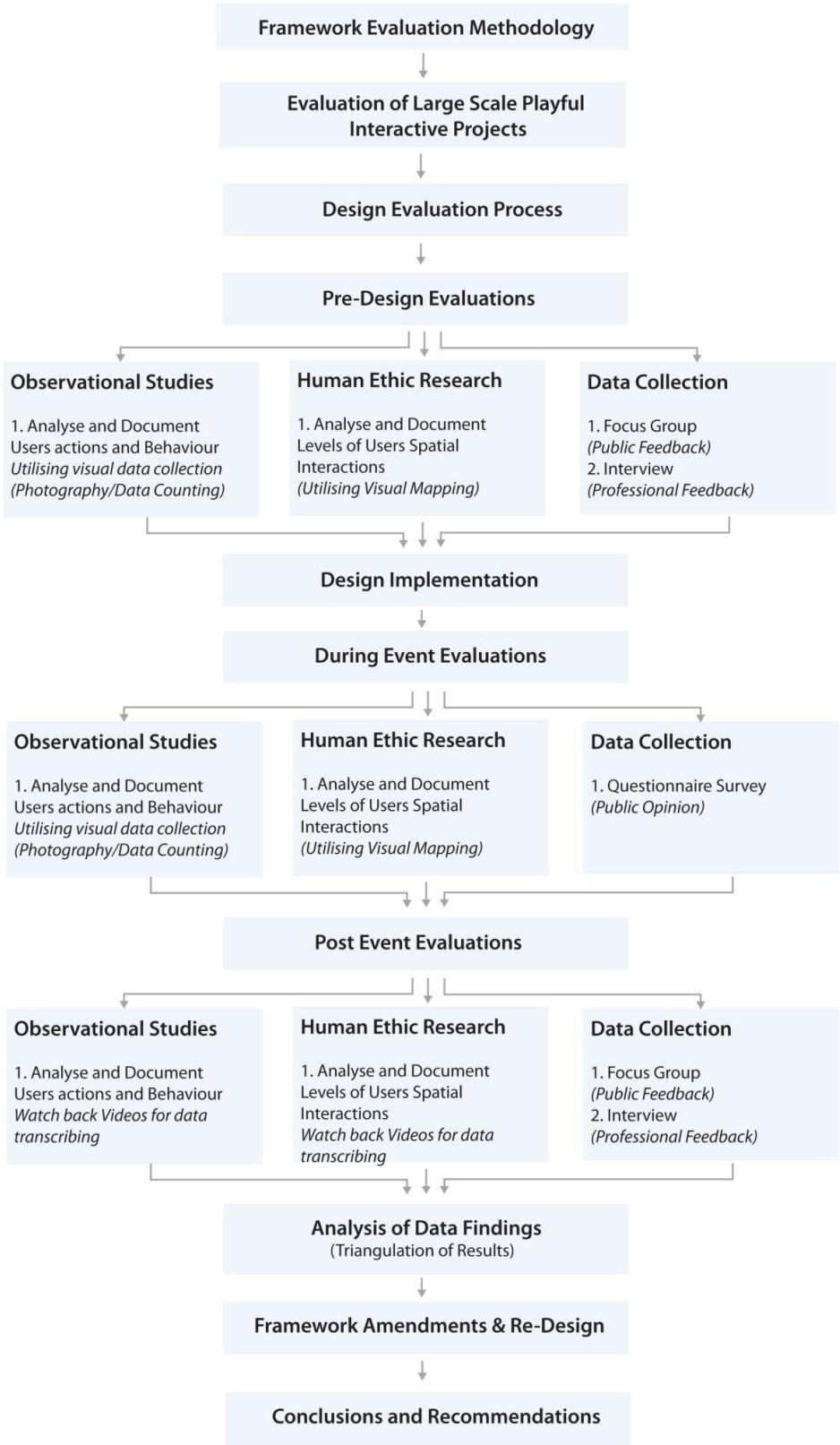


Figure 6.2: Framework Evaluation Methodology

During November 2014, the author was involved in a workshop for the construction of pneumatic structures, run by Urban Gorillas NGO[17] for their project the Green Urban Lab[18] (GUL). The resulting designs fitted the brief for constructing the playful interactive experience. The GUL Project ran between March and April 2015 under the title Fuskopolis, a play on the Greek works Fousko (inflatable) and Polis (city) where events took place in 4 major Cypriot cities (Figure 6.3). Described in a conversation with Rene Carraz, head of research at Urban Gorrillas NGO, the GUL aimed to 'measure the impact of the space and to understand how to promote public space for immigrants as this was a goal of the project. We question if the installation could promote sociability between different nationalities.' Urban Gorillas, gave permission to the author to benchmark and evaluate framework suggestions against playful inflatable structures implemented during GUL events for research output.

Figure 6.3: GUL Sites, *(Personal Images)*

There are 8 key sections within this chapter; Section 6.2 displays site selection for research evaluation while section 6.3 demonstrates the design artefacts employed. It presents: an overview of the design workshop, expert interview feedback, and an evaluation of the playful designs. Section 6.4 will show pre-design site evaluation methodology findings: observational studies and focus group opinions. Section 6.5 continues with the implementation of design artefacts and subsequently section 6.6 revisits observational studies during design implementation displaying a comparison of results. Furthermore this section presents onsite questionnaire survey results. Section 6.7 displays a post design focus group and expert interview findings allowing a summary of results. Finally section 6.8 displays an overall conclusion of the chapter.

[17] Urban Gorillas are a non-profit organization set up in 2013 with aims of building community participation through creative activities in the cities, in order to enrich social sustainable development of urban life.

[18] The GULs main goal was the regeneration of public spaces in Cypriot cities aiming to raise awareness of lacking use of public space in Cyprus.

6.2 Site Selection

This research focuses on two major sites of the GUL project, Limassol and the Capital Nicosia. In Limassol, the site of the Medieval Castle (Figure 6.4/Appendix 3.11) was adopted and in Nicosia the Bank of Cyprus, Cultural Foundation (Figure 6.5/Appendix 3.11). It was important to choose evaluation sites based on the parameter of accessibility within the playful interactive experience framework. Both sites are found at the heart of the cities old towns, which in recent years have become popular through a boom in restaurant and cafe culture bringing the local population back to the areas (Merry and Carraz, 2016), and as later research shows (Appendix 6.2), the attraction is not to the public areas but to the commercial offerings which surround the spaces. Despite the excellent proximity and availability of space along with historical attributes neither are utilised to their full potential.

Figure 6.4: The Medieval Castle of Limassol. *(Personal Images)*

Figure 6.5: Bank of Cyprus, Cultural Foundation, Nicosia. *(Personal Images)*

The large open spaces promote safety as there are few blind spots, each site is easily walkable in relation to city elements and transport links, additionally they are connected spaces which are situated between prominent areas allowing them to be within a convenient setting. The Limassol site is a transitional area between shops and restaurants which resides between the new Limassol marina and the old shopping city. Whereas in Nicosia the square is found between two major shopping areas, two streets one back and one front act as transitional routes between, allowing for the square to be seen by all. All of the spatial needs are suitable in relation to accessibility, permitting the sites to lend themselves to this study.

6.3 Design Artefact Production

During November 2014 a two week workshop run by Urban Gorillas at the University of Nicosia, Cyprus took place offering 13 designers a learning experience with Marco Canevacci of Plastique Fantastique, Berlin. The workshop specialised in inflatable structures. The aim of the workshop was to produce inflatable structures counteracting problems in public space. Diverse groups of designers from different disciplines were combined to design and produce playful structures. During the design process designers were aware that inflatable structures were also to be catalysts for social interaction, allowing users to explore their creativity and to playfully capture the attention of any passer-by. As displayed in figure 6.6 the design process followed a typical format of mind mapping, sketching, modelling, final construction and testing. The quick turnaround was possible due to the aid of the professional Marco Canevacci who was able to give advice on both structural details and construction, allowing the designers advice on whether to continue or dismiss an idea.

Figure 6.6: Workshop Process. *(Screen Shots courtesy of Urban Gorillas)*

The authors group concentrated on the Limassol castle area producing the 'DNA' tube displayed in figure 6.7. The author presented the frameworks for the construction of the playful interactive experience and interaction analysis to both the design group and members of Urban Gorillas, subsequently they were utilised to eliminate or retain ideas during design development. Proposals which did not fit within the 'brief' were dismissed or amended to suit the experience model, during the design process each element of the design framework was addressed.

The inflatable form reminding users of a balloon or bubble was deemed recognisable to the average passerby in relation to *Design Communication.* Additionally *Play Permission*

would allow the public to interact in a tactile manner or to enter the bubbles upon user choice thus addressing *Design Suitability*.

Figure 6.7: DNA Tube Design Visualisations and Final Implementation. *(Personal Images)*

The DNA tube followed a traditional method of design where paper modelling created the shape and patterns which were then scaled up to a 1:1 model. The inflatables were created using basic plastic sheeting which was cut to pattern size and later attached together using industrial strength double sided tape. The traditional modelling technique addressed the *Level of Permanence* being ephemeral and modular as promoted through the framework for construction, allowing designers to comprehend how the bubbles could be implemented into other sites or taken apart to allow new sections to be added at a later date.

Through the understanding of the framework for interaction analysis designers were able to comprehend that the interaction with the bubble was not solely placed upon direct interaction with the design. Design placement would not demand physical interaction, yet its large size and placement would act as the anchor drawing the public in to explore the once underutilised sites. *Accessibility* addressed through site selection (section 6.2) of the Limassol Castle and Nicosia Cultural Square allowed the inflatable structures to be placed within any area of the sites. In Limassol the aim of the tube structure was to emphasise and

extend the boundaries and pathway of the entrance to the castle. The tube was to begin at the first wall of the castle and end at the entrance of the castle doors. Specifically emphasising the historical element of the canon, as if it has been fired and the inflatable structure has been projected out as a contrasting contemporary element to the historical monument. It would not block any transitional element of the site nor block a user's usual path of movement. Furthermore, in relation to the second design pre-designed by Marco Canevacci, it aimed to integrate seamlessly into the centre of the bank of Cyprus Cultural Foundation Square, Nicosia allowing free movement around (Figure 6.8). Specifically inviting the user to explore its materiality from all angles, both internally and externally while from both viewpoints allowing participants to visually engage with further special offerings. In order to weigh down the inflatables, principle designer of Urban Gorillas, Veronika Antoniou designed weights inspired by sandbags which were filled with soil and plants as to bring nature to a clearly man made plastic design.

Figure 6.8: Bubble Design Visualisations and Final Implementation.
(Images Courtesy of Charalambous Sergiou)

6.3.1 Expert Feedback Interview 4: Marco Canevacci, founder of Plastique Fantastique

Marco Canevacci, founder of Plastique Fantastique was interviewed post design process to gain professional opinions on notions of playful interactivity with inflatable designs. Plastique fantastique was founded in Berlin in 1999, heavily influenced by unique circumstances of the city Berlin became a "laboratory for temporary spaces and has specialised in creating pneumatic installations as alternative, adaptable, low energy spaces for temporary and ephemeral activities" (Plastique Fantastique, 2014).

Once consent for the interview in an academic context was given, a list of structured questions were devised (Appendix 3.3) aiming for specific answers but also allowing for further discussion.

6.3.1.1 Findings

The major aim of the expert interview was to receive critical feedback on the notion of playful design and onward transfer in relation to inflatable design (Appendix 6.1). The inflatable, seen as a temporary tool to stimulate communication in the urban context, Marco stated that it "creates curiosity and interaction. Play is extremely important as the ludical experiment; playful situations facilitate communication and diminish aggression and aggressive backgrounds" (Appendix 6.1). Relating ludic actions to adult play, in line with current findings he suggests that adult play has a multiplication factor, whereas it is instinctive for children. Upon explanation of the research findings in terms of the definition of the playful interactive experience Marco was strongly in agreement that this was correct and noted that this is what he wants to achieve through his inflatable spaces.

In the context of the Cypriot events the levels of technology required for design construction was discussed, as a practitioner Marco noted that technology is not always necessary and was more in favour of a basic solution. In some cases CAD is required for more complicated outcomes but a simple solution has the possibilities to have the same impacts. When discussing the events themselves, Marco as a visitor to Cyprus had not had the opportunity to fully observe the sites, but in relation to the Limassol castle he witnessed a few people sitting around but not entering. His prediction was that:

> *"If you put an accent at the entrance of the castle it should entice users. You will see maybe people will have fun and diminish boundaries, it is a new approach to daily lives, and you are using the public space in new ways.... From my experience I am*

convinced it will attract many people of different backgrounds. Not only tourists or passersby but also the people living and working there, when you work somewhere you have a completely different approach to a space."

(Appendix 6.1)

The relationship of inflatable design to parameters of the design framework was addressed. The notion of temporarily was approached, Marco in full agreement of short term events recognises that in many cases places lose their appeal, and a complicated solution is not always needed. In an opposing view it is also important to keep in mind that "sometimes we create ideas and architecture which radically changes the city," in the context of this research radical architecture, does not encompass suggestions of the playful experience, as such this considered is a different genre of design.

In response to the authors notion of creating a physical boundary to diminish social boundaries, the 'urban game' as Marco described creates an intimacy between its users allowing them to interact with both the space and others. The creation of the bubble aimed to identify interactions between the physical and social, but in line with framework suggestions the idea of a physical boundary to diminish social difficulties should be in the eye of the designer, not the participant.

Physical safety was approached and the subject of diminished aggression and aggressive backgrounds was brought up during the interview. Marco noted that during some of his previous projects the authorities had been against events in some areas due to public behaviour. After events, these same authorities had contacted him to note that during event days crime rate had declined, thus raising the safety level for the public. This notion has not been addressed during the study, but as a future recommendation the playful and interactive experience and effects on crime rate or anti-social behaviour could be a feasible investigation.

Marco also stated that increased spatial and social impact may be witnessed with the people living and working there, suggesting that when you work somewhere you have a completely different approach to a space. The study thus far saw all participants as equal members of the public and as such further future recommendation could be applicable.

6.3.2 Design Analysis

In conjunction with professional feedback (Appendix 6.1) the author conducted an analysis to ensure the artefacts fulfilled the parameters for the framework for constructing playful interactive experiences, outcomes reveal that the designs fulfilled requirements. Consequently the investigation evaluates the implementation of both structures utilising the same methodologies for maximum data output.

Accessibility: Inflatables aim to entice overall feelings of accessibility encouraging lost spaces to become walkable thus promoting a safe atmosphere. Placing designs within underutilised sites with historical and cultural contexts aimed to connect users' current movement between cafes and shops, back to a cultural setting with in a convenient proximity to city elements.

Design Communication: The large inflatables aim to remind users of giant balloons, the materiality of a fluid and weightless nature gave an attractive aesthetic. Entrance zips were designed to be an attractive contrasting colour, inviting users to engage, the occurrence of the large bubbles themselves was to be the random encounter. In relation to size the bubbles aimed to give incentive to directly interact as well as to enter the free and open public spaces which would surround them.

Play Permission: The bubbles aimed to utilise maximum senses, **sight:** the physical appearance, **touch:** the weightlessness and materiality, **sound:** the ventilator, effect of the natural elements on the thin plastic and music being played within the sites, **smell:** the plastic itself and the plants holding down the structures. There were no rules applied and the level of creativity would be up to the user to explore, through active participation; users would be able to walk inside or around, encouraging a fun atmosphere. Users would be able to discover the inflatable, the space around, themselves and others at various levels.

User Reaction: The implementation of large and unexpected objects proposed that users would be captivated with the size and contrast to existing elements, causing fantasy of the unexpected, this stimulation aimed at onward transfer into parameters of user interaction.

Design Suitability: The inflatable aesthetic relates to a diverse background, an inflated space, bubble, balloon or tube can be perceived by all. User choice would be apparent, participants would have a choice whether to enter, the inflatables would not block access to sites, and users would be free to take their usual routes around the spaces. In relation to safety, in an emergency the bubbles could be broken easily, and two persons trained in the inflatables and their construction would be on site for the duration of the events. Approaching physical disability access, air could be removed and fan lowered to allow entry.

Level of Permanence: Events were to be ephemeral, the Limassol structure over two days and Nicosia a one day placement. The inflatables pack up small enough to fit into a car, allowing them to be transported easily. In relation to modularity, due to simple construction methods of double sided tape at any future point pieces could be added or removed. Additionally they could be squeezed between elements to create new shapes. As the designs were constructed off site, they would both have a fast and direct assembly, requiring only the inflation of air.

Level of Interaction: Both designs allow for varying levels of interactions: individual and multiple, as well as a range of follow on actions, users could enter and interact both internally and externally. As catalysts for social interaction the overall aims were promotion and encouragement of dialogue and visual communication transferring to follow on actions as outlined within the framework for interaction analysis.

6.4 Site Evaluation

Prior to design implementation, pre design site evaluations were required to gain knowledge on spatial usage and social interactions. Two methodologies were employed: observational data collection (Behavioural Mapping) and focus groups of local residents as seen in figure 6.9.

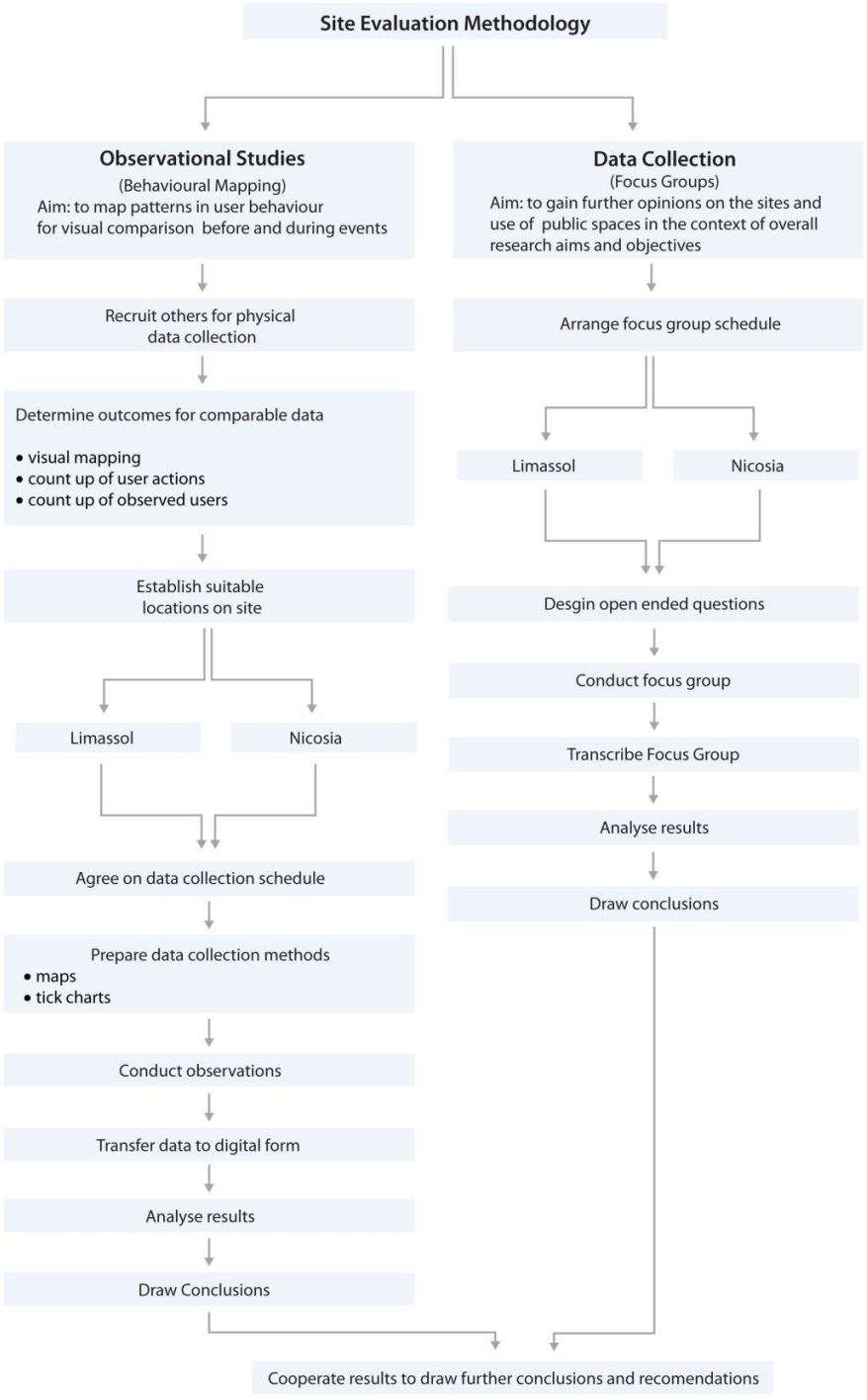


Figure 6.9: Site Evaluation Methodology

6.4.1 Pre – Design Focus Groups

To gain further knowledge within the context of the investigation two focus groups in collaboration with Urban Gorillas were conducted, one in Limassol and one in Nicosia. One month prior to design implementation, focus groups took place with 12 participants in Nicosia and 8 in Limassol. Participants were members of the public and Frederick University, ranging from 18 to 40 years old. The focus groups took place at the Limassol and Nicosia campus's of Frederick University, where a private room was arranged for the groups to meet. Once a date and time had been arranged, participants were invited and the focus group was set in place. Open ended questions which spanned 5 major themes were devised for discussion during the process (Appendix 3.4). The themes were:

- Participants definition and consideration of Public Space
- Frequency of usage and interactions
- Events within Public Space
- Playfulness and Interactivity
- Perception of the current sites

The questions were devised to be leading, prompting further discussions and suggestions. Once focus groups were conducted, data was transcribed and analysed to gain further knowledge to inform the research process (Appendix 6.2).

6.4.1.1 Findings

Definition and Consideration of Public Space: In line with current research findings public spaces were viewed as:

- A place without boundaries, an open space which everyone can go.
- A space you can walk or do something for more than 1 person.
- A free place where people can go.
- Somewhere you can relax, and not have in mind that you have to buy something.

Participants also suggested that the park, beach, street, marina and sea front promenade were public spaces. Although focus group members understood the ideal public space they

additionally stated that outdoor café seating and Malls were in their perception public space, a debate which researchers (Koolhaas, 2002; Mandipoor, 2003 and Harvey 2009) have described as semi-private public space.

Frequency of Usage and Interactions: Findings showed that in Nicosia participants believed that they frequently used public spaces as transitional areas, such as the street. These spaces were used merely for walking through and not to sit and spend time, in Limassol participants stated that they utilised public areas weekly mainly to walk. The difference in the results are in line with Limassols beach culture, as a city by the sea it has more public offerings than that of an inner city with no sea front. When discussing actions or interaction within public spaces, answers given were vague, in Nicosia the question had no real answers, which could conclude that lack of usage allows no answer. In Limassol participants only went with friends to public spaces and saw no catalyst to interact with others.

Events within Public Space: Suggestions of events which could be implemented into public space were: A Climbing wall, Skate Park, Open Gallery, Outdoor Exercise Events, Concert/Music, Interactive Installations and Trampolines. Participants had ideas of how to create events within their public spaces; the general overview is that active solutions were popular. In relation to the element of a playful space, participants were equally in agreement, suggesting a fun, large, colourful, textured solution that users can touch and follow.

Playfulness and Interactivity within Public Space: Discussions of proposed inflatable designs prompted dialogue on the levels and methods of playful interactivity, they suggested that physical interaction would be to run and play with a fun outcome, but in terms of the stages of interaction they would firstly take a photo, possibly would then upload it to social media, and then continue to engage physically. The physical engagement would result in a second photo opportunity and back to social media, they would then take time to call or send messages to others letting them know about the experience. Participants also suggested that the events would be something that has not been experienced in Cyprus or the given sites thus should have maximum impact.

Perception of the Current Sites: In relation to Limassol castle, participants mentioned that they had only entered once during a school trip and that they only visit the castle site to use

the surrounding cafes (Appendix 6.2). The area was viewed as a clean and attractive area which suggests that this is not the reason participants have not visited. In line with previous research (Merry, 2009) public toilet facilities were also ranked highly on user needs, which are also provided at the site, as such the space was seen as a lost entity over taken by cafe culture. In the case of Nicosia it is situated seconds away from the cities shops, restaurants and cafes allowing for the same conclusions.

6.4.1.2 Summary

Participants had an understanding of the ideal situation of public space, but within discussions into the mall and outdoor coffee seating the notions of public, semi-private and commercial spaces are confused. The use of public space was seen utilised more frequently in the sea side city, or pedestrian shopping areas, but again participants were more in favour of outdoor coffee seating than any current public offerings.

Overall results revealed that no one met and talked to strangers in public space, this was due to the lack of opportunity offered for strangers to mix. Participants appeared interested in the concept of play and interactivity and saw this as a method to stimulate interaction; despite this they could not envision how to promote this.

In relation to the levels of user interaction the significant finding outlined by both focus groups was the notion of the stages of interaction and the comments that they would photograph first and physically interact later. These suggestions have the possibility to amend the framework for interaction analysis by suggesting a further level of follow on interaction and how it has the possibility to loop back to the direct interaction phases.

Perceptions of the sites highlighted that they were clean and well maintained but not utilised to their full potential. The notion of installing a giant bubble within the sites was viewed as an exciting catalyst for the areas.

6.4.2 Observational Behavioural Mapping

Observational methodologies aimed to map patterns in user behaviour for visual and data comparison before and during the events. Data output aimed at three outcomes:

- Count up of observed users
- Data collection of user actions
- Visual mapping of users actions

Once onsite locations were established, a schedule of pre-design evaluations were arranged, data would be collected at 2 different hours of the day aided by members of Urban Gorillas, for 2 weeks prior to the design implementation (Table 6.1/figure6.9/6.10). Tick charts and observational maps were devised as tools for data collection (Appendix 3.10/3.11). Pre-design results would serve as benchmarks for comparison, visually in terms of mapping user movement and actions as well as statistically in the form of percentage increases and decreases.

Table 6.1: Schedule of Observational Data Collection

Limassol	Date	Time		Nicosia	Date	Time
Pre-Design	13th of March	12-1pm		**Pre-Design**	7th of March	12-1pm
	20th of March	12-1pm			14th of March	12-1pm
	13th of March	3-4pm			7th of March	3-4pm
	20th of March	3-4pm			14th of March	3-4pm
	14th of March	12-1pm				
	21st of March	12-1pm				
	14th of March	3-4pm				
	21st of March	3-4pm				
During Design	27th of March	12-1pm		**During Design**	4th of April	12-1pm
	27th of March	3-4pm			4th of April	3-4pm
	28th of March	12-1pm				
	28th of March	3-4pm				

Figure 6.10: Observational Locations

6.4.2.1 Findings

(a.) Count up of Observed Users

Each user who passed through the space was counted from the outside marking how many entered the inside of the grounds. The number of users who entered the spaces during the observational hours varied significantly (Tables 6.2/6.3/Appendix 6.3). This was due to external factors, for example more people are at work or school on a Friday rather than a Saturday and most significantly the weather in Nicosia on the first weekend of

observations was cold and wet, where as the rest of the observations took place within a warm and dry atmosphere. In response to these changes percentage of users will be compared rather than numbers.

In Limassol no more than 20% of the total users were witnessed entering the castle grounds, on average 11.5% entered during the observational periods. An unexpected finding was in Limassol, on both Saturdays during the 3pm-4pm period a surge in users have been identified but the number of users who enter the castle grounds decreased significantly over both weeks to 5% and 9% respectively (Table 6.2).

Table 6.2: Count up of Observed Users

City	Limassol	Limassol	Limassol	Limassol	Nicosia	Nicosia
Time	12pm - 1pm	3pm - 4pm	12pm - 1pm	3pm - 4pm	12pm - 1pm	3pm - 4pm
Date	Friday 13th March	Friday 13th March	Saturday 14th March	Saturday 14th March	Saturday 7th March	Saturday 7th March
Number of Adults	205	235	552	730	118	85
Number of Children	5	13	148	146	2	2
Total	210	248	700	876	120	87
Adults entering	26	33	61	42	3	0
Percentage	13%	14%	11%	6%	2%	0%
Children Entering	1	1	12	6	2	0
Percentage	20%	8%	8%	4%	100%	0%
Total Entering	27	34	73	48	5	0
Percentage	13%	14%	10%	5%	4%	0%

City	Limassol	Limassol	Limassol	Limassol	Nicosia	Nicosia
Time	12pm - 1pm	3pm - 4pm	12pm - 1pm	3pm - 4pm	12pm - 1pm	3pm - 4pm
Date	Friday 20th March	Friday 20th March	Saturday 21st March	Saturday 21st March	Saturday 14th March	Saturday 14th March
Number of Adults	392	213	383	593	319	307
Number of Children	24	8	40	51	36	14
Total	416	221	423	644	355	330
Adults entering	49	40	37	48	6	0
Percentage	13%	19%	10%	9%	2%	0%
Children Entering	2	2	5	11	0	0
Percentage	8%	25%	13%	21%	0%	0%
Total Entering	51	42	42	59	6	0
Percentage	12%	19%	10%	9%	1.50%	0%

Nicosia encompassed even less interaction within the cultural square. The bad weather conditions hindered user numbers during the first week of study, but in relation to percentage no one entered the square during either of the 3-4pm Saturday observations (Tables 6.2). In total only 11 people entered the space over 4 hours of observations, demonstrating an extremely limited spatial usage.

(b.) Count up of Observed Actions

Observational techniques mapped user actions, any user who stopped and conducted an action was recorded, firstly their position was marked on a map and secondly their action marked with a corresponding number on a tick chart with their action recorded (Appendix 6.4). To carry out this research 4 persons were required on site at all times, two inside the grounds and two outside, one recording the map position and the other marking corresponding actions. For any relief required during the study a fifth person was present on standby to help with the study. Six actions were categorised during the evaluation of results in order to create a method comparative data for the design implementation days:

- Taking Photos (The act of any form of photography)
- Talking (Any conversation witnessed)
- Observing (Studying an element of the spatial setting)
- Sitting (On a bench or any spatial element excluding that of bars, cafes, restaurants)
- Playing (Any act of play or humour)
- Other (Other was not pre-determined but actions such as: used public toilets, looked at signs, used tourist info kiosk, smoking and using mobile were witnessed)

Observations revealed that the number of actions recorded was not correspondent to the number of users counted as one user may conduct multiple actions within the same spatial setting. Furthermore within Limassol the number of users counted as entering the space does not correspond with the figures of user actions as during the observation periods there were already members of the public present within the castle grounds and the castle itself, as such it is better suited to the study to compare percentages of actions observed. Appendix 6.4 reveals the results over the two week period.

Pre-design statistics revealed that within the Limassol site user interaction with each other was low within the grounds of the castle grounds. The highest percentage of

conducted actions which was categorised as 'other,' most users simply walked in and out of the castle, not spending enough time to visit as payment was required. Others looked at signs or used the public toilet facilities. Outside the castle area, users were seen in conversation and looking at restaurant menus. Photo opportunities were witnessed, mainly photographing each other, but few of the castle itself and the artefacts around. A large number were seen observing the castle gates, yet many did not enter the spatial offerings. During the hours of 12pm and 1pm on Friday 20th March (Table 6.3/Figure 6.11) a group of school children and a large tourist group from a cruise ship were present within the space, causing a significant rise in actions during this period.

In relation to Nicosia, very few users entered the site; only 11 were witnessed entering over the four observational periods a total of 4 hours. In Nicosia 'observing' encompassed the highest percentage of user actions (Table 6.4), but it was clear that there was no apparent offering that enticed users to enter. People stopped and looked inside from the entrance, but chose to quickly move on (Figures 6.11/6.12).

Table 6.3: Pre Design Actions Limassol (Friday 13th/20st March 12pm – 1pm)

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Outside Pre – Design Week 1		Outside Pre – Design Week 2	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	2	2%	2	3%	2	4%	22	12%
Talking	20	20%	32	40%	12	23%	64	36%
Observing Events	27	27%	15	19%	14	26%	77	43%
Sitting	4	4%	4	5%	8	15%	5	3%
Playing	3	3%	21	26%	1	2%	0	0%
Other	43	44%	6	7%	15	28%	11	6%
Total Actions	99		80		53		179	

Table 6.4: Pre Design Actions Nicosia (Saturday 7th/14th March 12pm – 1pm)

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Outside Pre – Design Week 1		Outside Pre – Design Week 2	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	0	0%	0	0%	0	0%	5	11%
Talking	0	0%	0	0%	2	1%	0	0%
Observing Events	3	60%	5	83%	12	63%	27	56%
Sitting	0	0%	1	17%	0	0%	0	0
Playing	2	40%	0	0%	0	0%	6	12%
Other	0	0%	0	0%	5	26%	10	21%
Total Actions	5		6		19		48	

(c.) Behavioural Mapping of User Actions

Visual behavioural mapping (Figures 6.11-6.12/Appendix 6.5) was created parallel to the count up of users, each action was marked as a point on the map and then translated to a digital form as benchmarks for comparison with design implementation observations. In relation to increased actions during the 12pm – 1pm period the large blue clusters in figure 6.12 represent the school children who sat, talked and played. Due to their presence the act of play encompass a higher percentage during this period. Similarly with the tourist group, a higher percentage of conversation and observation took place both inside and outside of the castle grounds. Appendix 6.5 displays visual mapping for all of the observed time periods. In Nicosia visual mapping demonstrates the users who stopped and observed from the entrance, but then chose to quickly move on (Figures 6.13/6.14).

Users actions are determined as randomised locations where few conclusions in relation to current spatial offerings can be made, apart from the Limassol castle where users went in and out of the castle entrance and the entrance to the Nicosia site where few stopped to observe. It may be concluded that there were currently no enticing spatial offerings at either site to encourage prolonged interactions of the public.

Figure 6.11: Friday 13th March 12pm–1pm (Limassol)

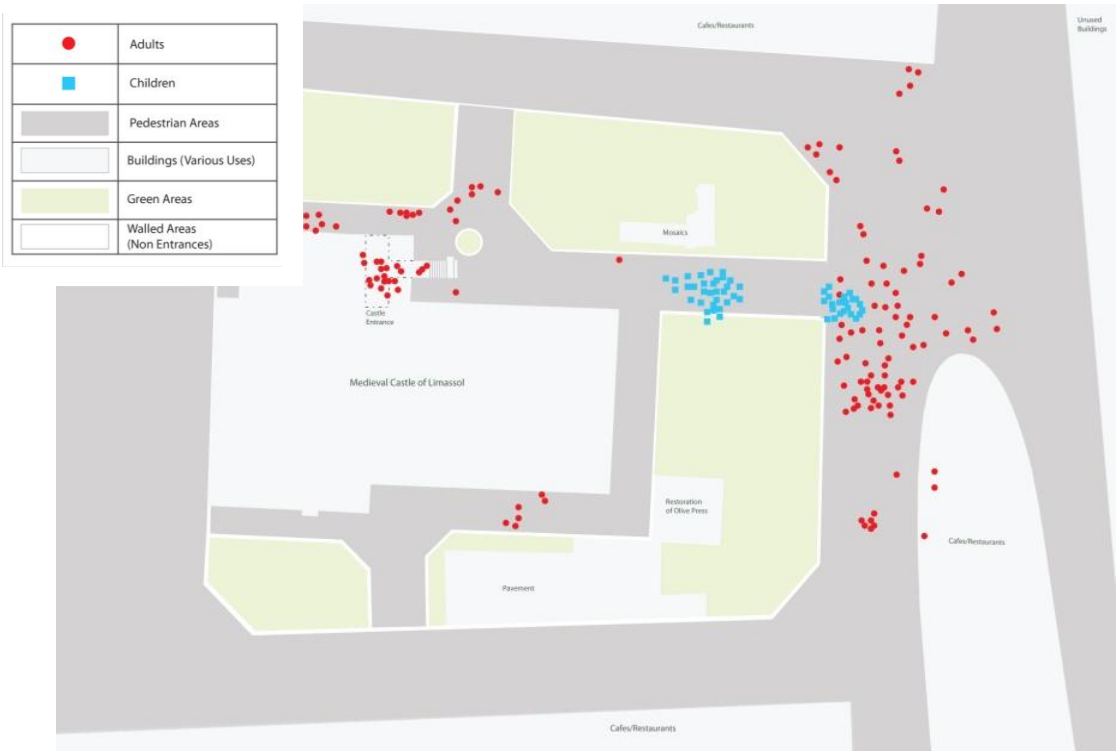


Figure 6.12: Friday 20st March 12pm–1pm (Limassol)

Figure 6.13: Saturday 7th March 12pm–1pm (Nicosia)

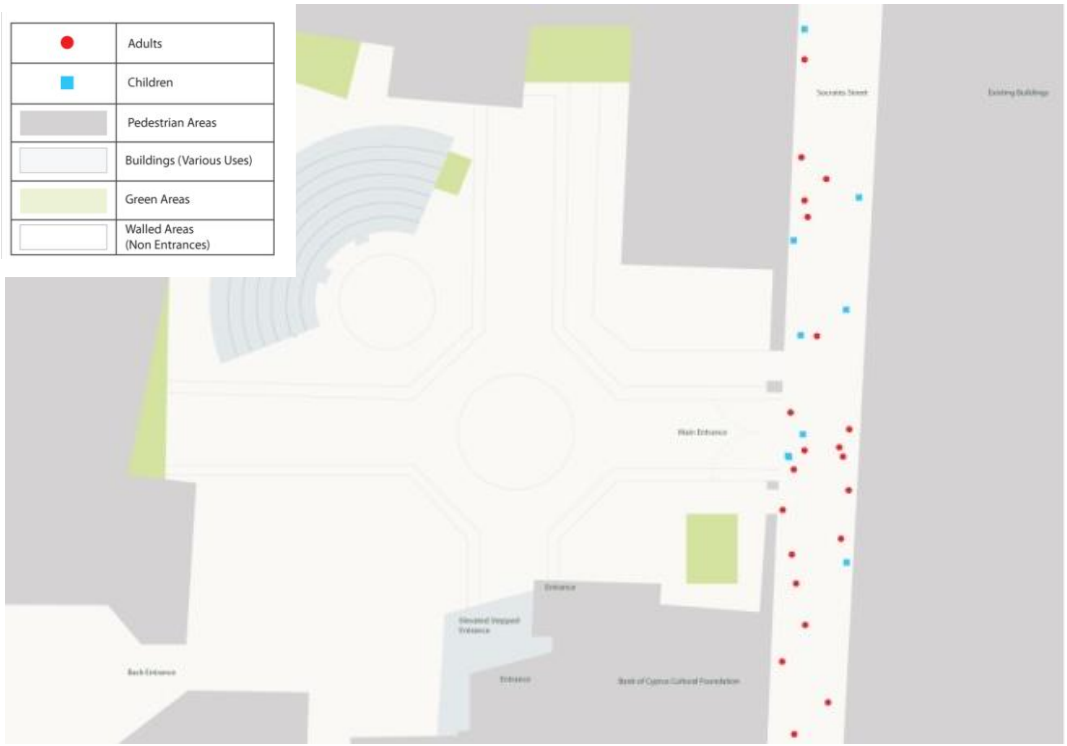


Figure 6.14: Saturday 14th March 12pm–1pm (Nicosia)

6.4.2.2 Summary

The observed sites are historical landmarks within their city centres, the statistical and visual output determined by the observational studies illustrate their underutilisation in line with focus group findings (Appendix 6.2). It is important to point out that the public areas being attached to cultural elements may hinder usage through a promotion of a false sense of privacy, this feeling of private space aimed to be counteracted through the implemented designs.

There was a clear lack of spatial offerings within the sites, this is related to the permanence of the objects inside, Gaventa (2006) suggested that a temporary nature is a method to give public space back to its users. Within the Nicosia site numerous pieces of art are permanently displayed, and at Limassol castle many historical artefacts can be found, despite this the behavioural study showed that these were no longer attracting the public. In line with Whytes (1980) 'triangulation' concept the sites lack the 'buzz' of the city, activities and meeting opportunities are not provided for users. Described by Merry and Carraz (2016) the spaces qualify 'non-place' (Auge, 1995) in the middle of a city, they are places with non-present memory especially among the questioned participants of the focus group.

6.5 Design Implementation

Implementation took place over short encounters, in Limassol a two day period, Friday 27th and Saturday 28th March, 2015 and in Nicosia a one day period on Saturday 4th April due to limited permission. In relation to the parameter of a fast and direct assembly the bubbles were inflated as quickly to avoid exposure. Personal observations concluded that members of the public witnessed the artefact setup, this may have hindered the parameter of an instinctive response to the playful design, but it did allow the public to ask questions to the set up team as such social interactivity was already heightened during this period. The highly successful design of the stair installation (Chapter 5) prompted the addition of a pathway design surrounding the bubbles. In both sites, the tape pathways were designed and implemented to further prompt users into the spatial settings (Figures 6.15/6.16).

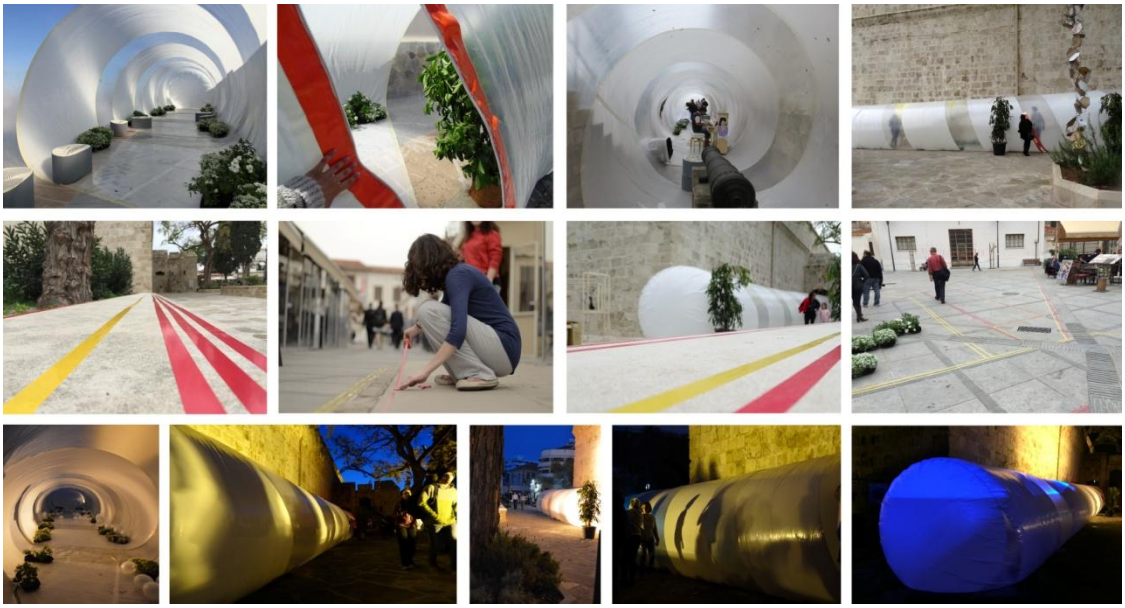


Figure 6.15: Limassol Site, Design Implementation
(Personal Images and Images Courtesy of Urban Gorillas)

Figures 6.15 and 6.16 illustrate that design artefacts did not affect the original settings; they offered safe and walkable public areas. Designs impacted on the spatial setting in an attractive and engaging manner giving the public incentive to enter. In line with research suggestions the inflatables acted as stimuli for public good and onward transfer aiming to: Firstly, increase user experience by allowing users to explore their creativity in an individual or multiple ways. Secondly, increase sociability and thirdly, exposed the public to interactive installations otherwise avoided within a 'gallery' setting and lastly, diverting the

public from their usual routes within public space allowing once unused areas to become centres of activity.

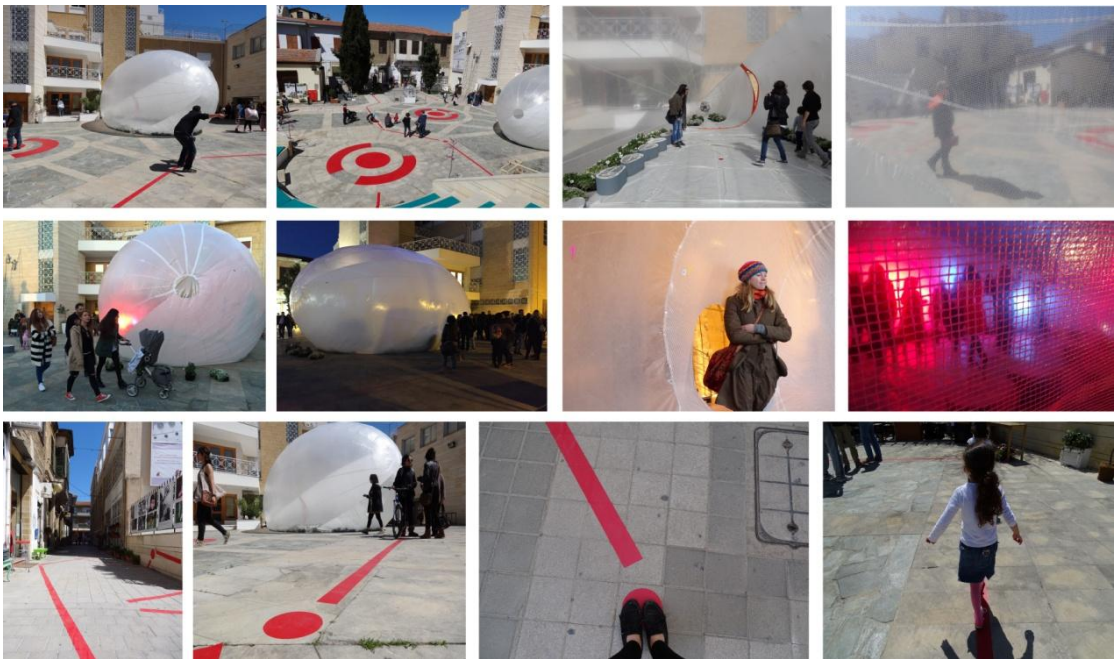


Figure 6.16: Nicosia Site, Design Implementation.
(Personal Images and Images Courtesy of Urban Gorillas)

6.6 Framework Evaluation

During events user actions were re-recorded. Due to a prediction of increased users, the employment of two cameras at each site were utilised, one inside and one outside to record user movements and actions as seen in figure 6.17. Data was to be evaluated at a later date through use of the tick charts and visual maps of the areas. The author was onsite during the implementation days to ensure that cameras were working correctly and kept safe.

An onsite interview style questionnaire was devised in conjunction with Urban Gorillas to gain public opinion on the impact of events and further knowledge of their corresponding actions. The questionnaire was designed to determine statistical results to support observational findings which have the possibility to be subjective. Figure 6.18 outlines the evaluation methods employed during event.

Figure 6.17: Camera Placement, Limassol and Nicosia

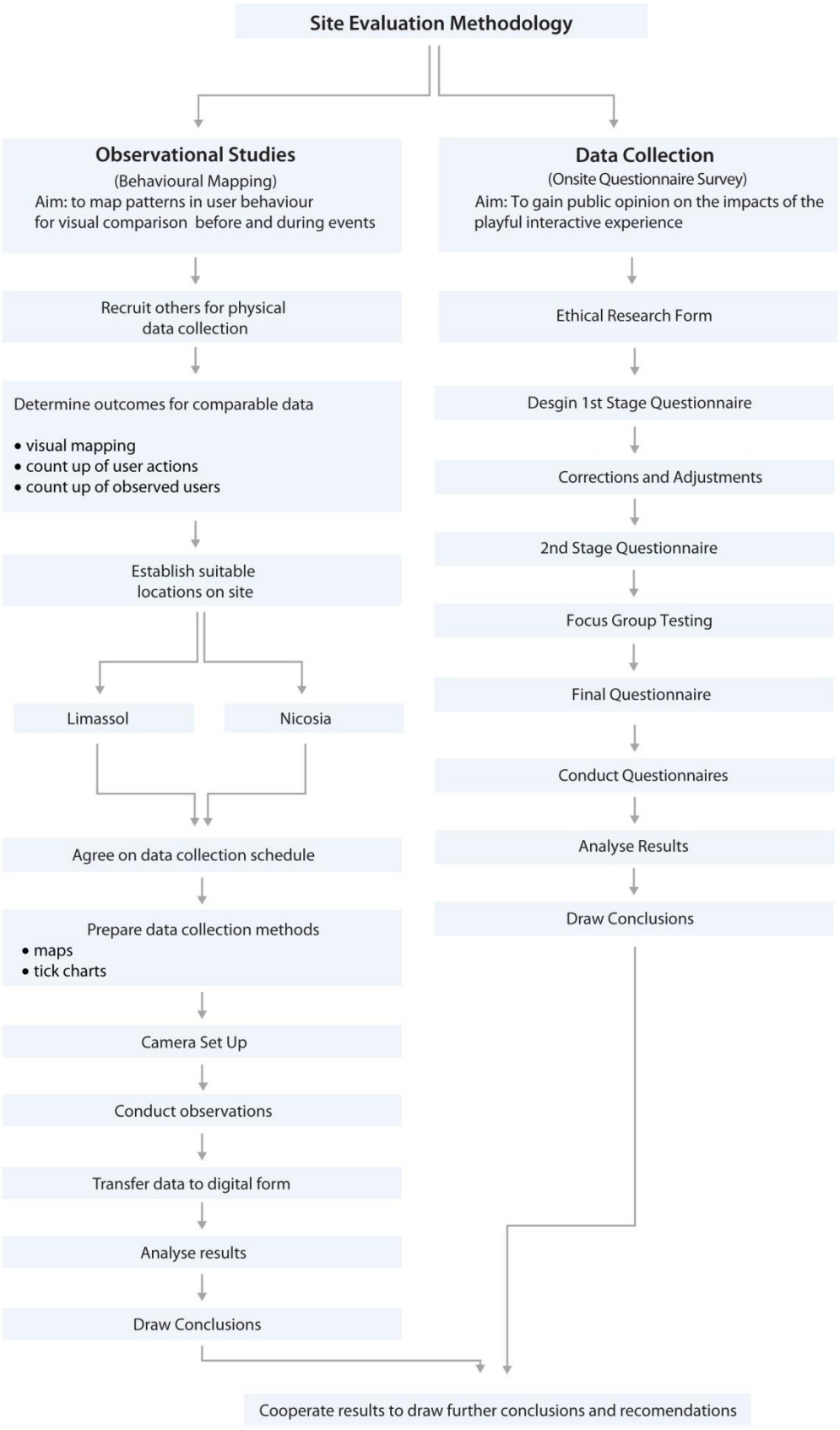


Figure 6.18: Framework Evaluation Methodology

6.6.1 Observational Studies

6.6.1.1 Findings: Count up of users

The count up of users at both sites display a significant increase during the event days (Appendix 6.3/Table 6.5/6.6). Users entering the sites largely increased especially within Nicosia where previously results stated there was almost none. A significant finding is the number of participants who entered the inflatable itself, as numbers increased within the site the number entering the inflatable decreases. In line with Whyte (1980) and Ghel (2010) it may be concluded that as the volume of users amplified the spatial offering became less about the inflatable and more about the attraction of others.

Additionally in Limassol the smallest increase in users entering the castle grounds was on Friday 12-1pm, the first of the observational hours, and the largest increase on Saturday between 3-4pm, the last of the observational hours. It may be concluded that over its two day presence at the castle the number of users heightened as the event built popularity.

Table 6.5: Pre and During Design Count up Comparison, Limassol

Limassol						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	21st March	28th March	**Comparison**	21st March	28th March	**Comparison**
Number of Adults	383	915	**>532**	593	1049	**>456**
Number of Children	40	69	**>29**	51	71	**>20**
Total	423	952	**>529**	644	1120	**>476**
Adults entering	37	226	**>189**	48	456	**>408**
Percentage	10%	25%	**N/A**	9%	43%	**N/A**
Children Entering	5	19	**>14**	11	50	**>39**
Percentage	13%	28%	**N/A**	21%	70%	**N/A**
Total Entering	42	245	**>208**	59	496	**>437**
Percentage	10%	26%	**N/A**	9%	44%	**N/A**
Total Entering Inflatable	N/A	103	N/A	N/A	156	N/A
Total overall Percentage	N/A	11%	N/A	N/A	14%	N/A
Total Entering ground %	N/A	42%	N/A	N/A	32%	N/A

Table 6.6: Pre and During Design Count up Comparison, Nicosia

Nicosia						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	**14th March**	**4th April**	**Comparison**	**14th March**	**4th April**	**Comparison**
Number of Adults	319	341	**>22**	307	503	**>196**
Number of Children	36	48	**>12**	35	55	**>20**
Total	355	389	**>31**	342	558	**>216**
Adults entering	6	504	**>498**	0	238	**>238**
Percentage	2%	60%	**N/A**	0%	47%	**N/A**
Children Entering	0	46	**>46**	0	14	**>14**
Percentage	0%	96%	**N/A**	0%	25%	**N/A**
Total Entering	6	250	**>244**	0	252	**>252**
Percentage	1.50%	64%	**N/A**	0%	45%	**N/A**
Total Entering Inflatable	N/A	87	N/A	N/A	66	N/A
Total overall percentage	N/A	22%	N/A	N/A	12%	N/A
Total Entering ground %	N/A	35%	N/A	N/A	26%	N/A

Figure 6.19: New Spatial Usage.
(Personal Images and Images Courtesy of Urban Gorillas)

6.6.1.2 Count up of User Actions - Limassol

User actions reveal that overall numbers increased significantly, especially between week 1 of observations and implementation days (Table 6.7 and Appendix 6.4). Pre implementation the major action witnessed within the Limassol castle grounds was 'other' where the majority of the public walked in and out of the castle. Data reveals actions shifting significantly, more than halving that of 'other' during the implementation days.

Table 6.7: Pre and During Design Actions Compared, Limassol (3pm – 4pm)

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	2	7%	19	24%	9	9%	2	3%	2	5%	37	21%
Talking	6	21%	7	10%	54	56%	8	11%	4	10%	39	22%
Observing Events	2	7%	14	18%	12	12%	21	28%	5	13%	30	17%
Sitting	4	14%	5	6%	4	4%	7	10%	11	27%	7	4%
Playing	3	10%	0	0%	2	2%	0	0%	0	0%	0	0%
Other	12	41%	33	42%	16	17%	35	48%	18	45%	7	4%
Other (Watching Performance)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	33%
Total Number Observed	29		78		97		73		40		178	

Photography and observations within the castle grounds remained a similar percentage (Appendix 6.4), but as the number of actions witnessed increased, overall data revealed that more people observed and visually documented their experience. Pre design results showed users would utilise the low walls around the site as places to sit, this remained the same during the observational times except during the hours of 3-4 on Saturday when the weather significantly improved and users were witnessed utilising the area as a place to sit and enjoy further rather than purely to see and leave.

Conversation also increased, comprising of between 45-55% of overall actions. Pre-design, it was between 10-20% and only rose when a large tourist group was present. The physical act of play was a low percentage both pre and during design, the act of play is one of debate and difficult to define through observation, as such this will be measured through public opinion.

Actions significantly increased during the hours of 3-4pm outside the castle grounds actions where as only a slight change was seen during the hours of 12-1pm, this difference in

results was due to the high numbers of tourist groups within the space during these hours. 12pm-1pm is a prime time for cruise ship visitors to visit the historic city. Tourists are more likely to spend time observing and photographing, as part of a tour group they would not be permitted extra time to sit within the space or grounds. A rise was seen in observing and talking outside of the site but only marginally in comparison with inside. It is important to note that between the hours of 3pm to 4pm there was a dance street performance which compromises of 33% of the actions witnessed during this hour. Although the performance was not directly linked to the inflatable, the occurrence of an unexpected creative performance allowed users to stop and take notice. Overall 608 actions were recorded in week 1 of observations, 676 week 2, and during the implementation days 1580, almost triple.

Figure 6.20: User Actions, Limassol.
(Personal Images and Images Courtesy of Urban Gorillas)

6.6.1.3 Count up of User Actions - Nicosia

Nicosia findings indicate a clear increase in user interaction with the internal space. During design implementation conversation and observation were the highest reactions, additionally others were surveyed as photographing the space as well as sitting, playing and enjoying the new spatial offerings. Similarly to Limassol the inflatable acted as the permission to enter the space creating an atmosphere which was lacking before.

Outside between the hours of 12pm – 1pm observations and conversations increased significantly comprising of 93% of the observed actions. During 3-4pm observations decreased but conversation remained high (Appendix 6.4), this could be attributed to the fact that the total number of users who entered the space doubled during this period. Rather that purely observing from the outside users entered the space directly through the attraction of others. During week 1 only 37 actions were recorded, and 107

week 2, but during the events 687 were observed overall, a significant increase which supports the aims of the investigation (Table 6.8).

Figure 6.21: User Actions, Nicosia.
(Images Courtesy of Charalambos Sergiou)

Table 6.8: Pre and During Design Actions Compared, Nicosia (Saturday 3pm – 4pm)

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	0	0%	0	0%	20	12%	0	0%	1	2%	16	11%
Talking	0	0%	0	0%	68	40%	3	23%	8	15%	69	50%
Observing Events	0	0%	0	0%	48	28%	6	46%	22	41%	37	27%
Sitting	0	0%	0	0%	11	6%	0	0%	2	4%	0	0%
Playing	0	0%	0	0%	13	8%	0	0%	9	17%	4	3%
Other	0	0%	0	0%	11	6%	4	31%	11	21%	12	9%
Total Number Observed	0		0		171		13		53		138	

6.6.1.4 Behavioural Mapping of User Actions - Limassol

Visually each action was re-recorded on the map and marked with the corresponding symbol. Pre-design, users actions were spread out and randomised, no exact pattern of movement was formed. In comparison to the implementation days it was clear that a high percentage of actions took place at the entrance to the castle grounds where users congregated to see the new spatial offering. Once inside the space, users' movement was also spread around the inflatable and the smaller sculptural, historical and general spatial offerings.

Figures 6.22-6.25 and appendix 6.5a present visual behavioural mapping of the Limassol Site. Pre design, clusters of user actions were attributed to large groups of tourists

or school groups. Actions were conducted randomly across the site with many observing the castle, using the toilet facilities or simply walking in and back out of the castle entrance. The resulting visual mapping supplied no concrete patterns of actions or movement. Outside, we now observe a. an increase in the number stopped at the entrance gates, b. dispersing of actions the further away from the gate they become. In relation to the interior of the site, clusters provide visual data displaying that walls were utilised as stopping points for actions, especially parallel to the inflatable and the circular wall next to the castle entrance. These sites allow clear visual access to the inflatable, thus suggesting that members of the public were prompted to observe the playful experience.

Friday 13th March 12pm – 1pm (Pre-Design)

Friday 20st March 12pm – 1pm (Pre-Design)

Friday 27th March 12pm – 1pm (Design Implementation)

Figure 6.22: Behavioural Mapping: Pre and During Design Implementation, Limassol

Friday 13th March 3pm – 4pm (Pre-Design)

Friday 20st March 3pm – 4pm (Pre-Design)

Friday 27th March 3pm – 4pm (Design Implementation)

Figure 6.23: Behavioural Mapping: Pre and During Design Implementation, Limassol

(Observational Video Screenshots)

Saturday 14th March 12pm – 1pm (Pre-Design)

Saturday 21st March 12pm – 1pm (Pre-Design)

Saturday 28th March 12pm – 1pm (Design Implementation)

Figure 6.24: Behavioural Mapping: Pre and During Design Implementation, Limassol *(Observational Video Screenshots)*

Saturday 14th March 3pm – 4pm (Pre-Design)

Saturday 21st March 3pm – 4pm (Pre-Design)

Saturday 28th March 3pm – 4pm (Design Implementation)

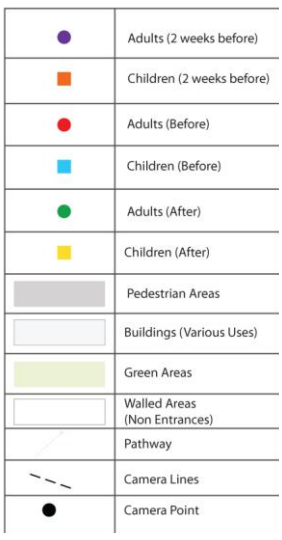
Figure 6.25: Behavioural Mapping: Pre and During Design Implementation, Limassol *(Observational Video Screenshots)*

6.6.1.5 Behavioural Mapping of User Actions - Nicosia

Figures 6.26/6.27 and Appendix 6.5b reveal visual behavioural mapping of the Nicosia site. Pre design users randomly stopped in the street parallel to conduct a range of actions, during the design experience camera angles allow for data collection in one direction but revealed that public congregated around the entrance to the site, mainly observing and discussing. Pre design, users who stopped to conduct actions in the street was dispersed randomly, whereas they now formed a cluster. It is suggestible that the events caused an atmosphere which encouraged users to conduct their actions within or parallel to the site. Within the site itself users supplied actions randomly, some congregated around existing public art objects, this highlighted that the playful catalyst prompted users to explore further spatial offerings. It is vital to point out that the camera angle did not allow the display of the amphitheatre steps which may have been utilised for seating during the event. As such user actions can only display a partial image.

Saturday 7th March 12pm – 1pm (Pre-Design)

Saturday 14th March 12pm – 1pm (Pre-Design)

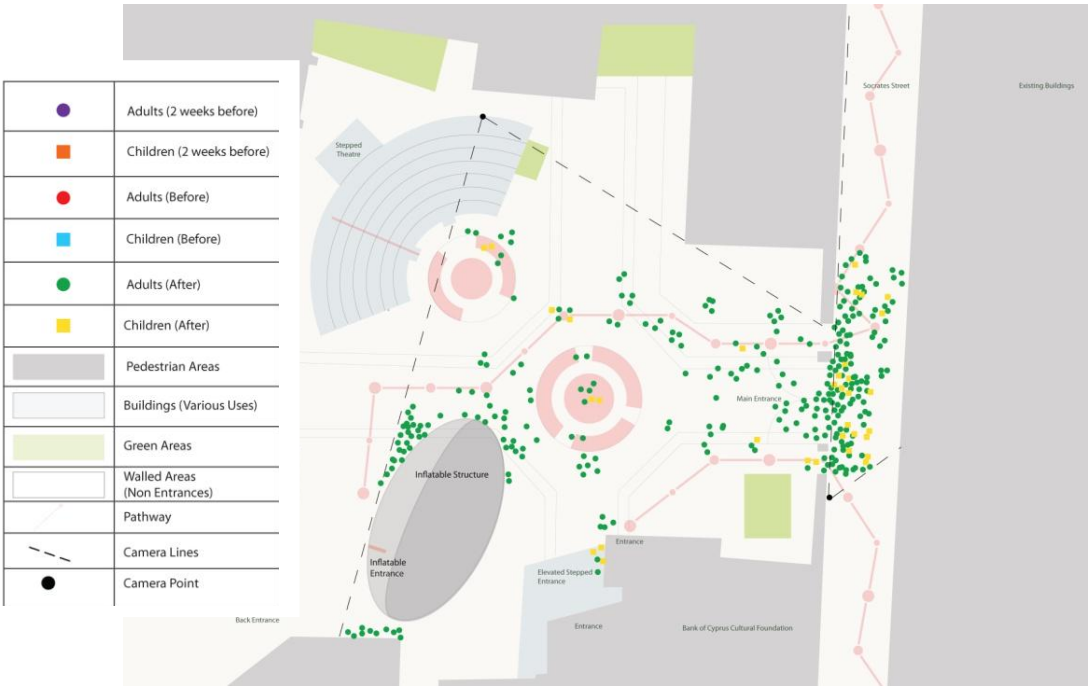


Saturday 4th April 12pm – 1pm (Design Implementation)

Figure 6.26: Behavioural Mapping: Pre and During Design Implementation, Nicosia

Saturday 7th March 3pm – 4pm (Pre-Design)

Saturday 14th March 3pm – 4pm (Pre-Design)



Saturday 4th April 3pm – 4pm (Design Implementation)

Figure 6.27: Behavioural Mapping: Pre and During Design Implementation, Nicosia *(Observational Video Screenshots)*

6.6.1.6 Summary

Data findings reveal increased spatial usage and transfer to follow on actions of visual, conversational and spatial nature. In Limassol users no longer walked in and out, they spent time to conduct further actions, where as in Nicosia users who previously observed from the entrance and then moved on were offered the opportunity to engage further. Nicosia comparisons are straightforward, when there is nothing before, the event caused a clear increased spatial usage, whereas in Limassol randomised acts appeared during both stages of observations but with an increase in numbers of actions. Visual mapping, numbers of user actions and a display of a greater number of participants' points towards the playful interactive experience acting as the catalyst for social, self and spatial interaction. The bubbles themselves are not surrounded by participants; as such preliminary findings indicate that the playful catalysts were successful in their aims of enticing users to and within the forgotten areas, thus suggesting the playful designs fulfilled the brief of being the stimuli for further spatial discovery. Further data is required to coordinate results and to give reasoning for the changes witnessed during the observational study.

6.6.2 Onsite Questionnaire Survey

The successful questionnaire and results it yields have the potential to be a vital part of any research project. During this stage of the research the employment of further questionnaire studies in collaboration with Urban Gorillas was required to gain knowledge from the public on the implementation of the inflatables, additionally aiming to support findings of the observational studies. Earlier findings suggested an onsite, explanatory style questionnaire.

Aim: To gain public opinion on the impacts of the playful interactive experience

Objectives:

- Assess the impact of the playful design implementation
- Find out how users discovered the spatial experience
- Identify the attraction of the inflatables
- Discover if the events provoked follow on actions and to identify these actions
- Judge users perception of the spatial setting and if it had changed during events
- Identify the level of success
- Discover if participants did encompass the feeling of play
- Identify problems with current designs and design framework
- Gain additional comments to bridge gaps in current findings.

The questionnaire was to be performed on site in an interview style with results recorded on an electronic tablet provided by Urban Gorillas. To achieve comparable data multiple choice questions and a likert scale were utilised (Appendix 3.6b). It was important the questionnaire be relevant to a substantial portion of the public, and as such the questionnaire was also supplied in Greek (Appendix 3.6c).

6.6.2.1 Findings

Overall questionnaire results (Appendix 6.6) were positive towards the impact of events as well as playful interactivity within the public spaces. A general overview showed that the Limassol participants were marginally more positive in their answers.

In relation to impact, the questionnaire aimed to determine how a user came across the installations. In both cities 'word of mouth' had the highest percentage with 41.5% and social media with 31.7%. In Nicosia social media encompassed higher percentage, (Figure 6.28) this may be due to Nicosia being the last event, one week later than that of Limassol, as such exposure and circulation to previous events may be higher. Once encountering the playful installations results stated that overall 62% of participants were 'very much' enticed to enter the spaces, no one answered 'not at all.' In comparison between the two sites, the users in Limassol who were 'very much' enticed were 20% higher than those in Nicosia, with the 20% difference being split between both 'somewhat' and 'very much' (Figure 6.29).

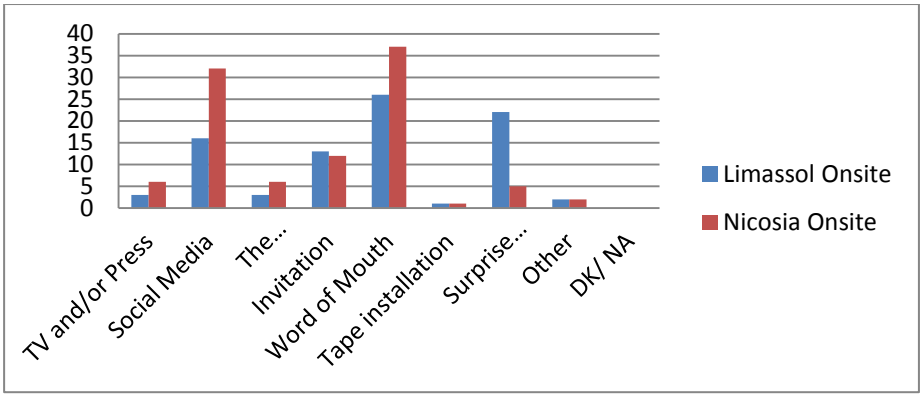


Figure 6.28: Questionnaire Findings: How did you hear about the inflatable?

To relay survey findings to levels of user interactions the questionnaire aimed to find out if events provoked onward discussion or visual interactions. An overall percentage of 77.5% of participants stated that discussions were initiated by the designs and one third of these were with strangers or passersby. In previous research Urban Gorillas stated that from 1000 respondents to their phone questionnaire only 6.1% of participants talked to strangers within public spaces before (Merry and Carraz, 2016).

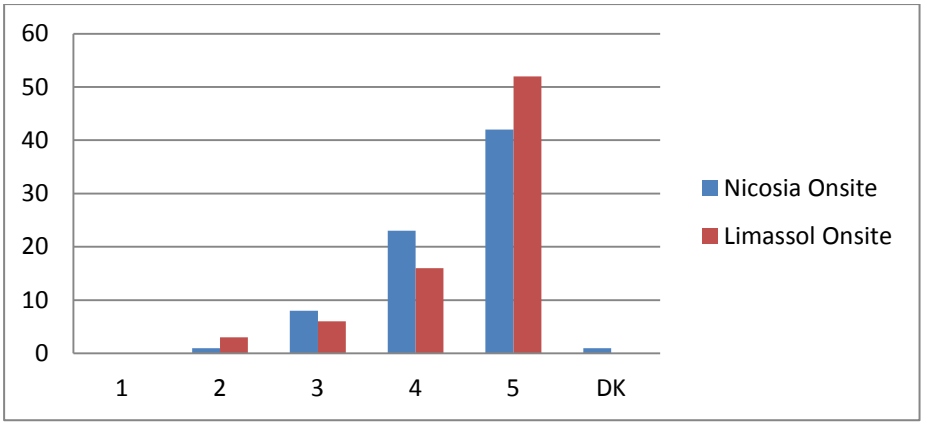


Figure 6.29: Questionnaire Findings: To what degree did the inflatable attract you to enter the space?

In relation to photographic or video interactions just over two thirds of participants took photos or videos, 80% of photographed subjects were the inflatable, 42% others interacting with the inflatable and 14% 'selfies.' 63% of those who had visually interacted stated that they had the intention of onward transfer to social media, indicating further follow on actions and exposure to the experiences.

In Limassol 73% of participants had never entered the castle grounds before, a change in perception due to the events, was a significant finding, overall 44.7% believed that their thoughts towards the spaces had improved substantially, 30.3% thought it had improved a bit and 15.1% it had stayed the same, with no answers for negative impact (figure 6.30). The improved spatial perceptions indicate that the playful events had promoted the usage of space in a once forgotten area.

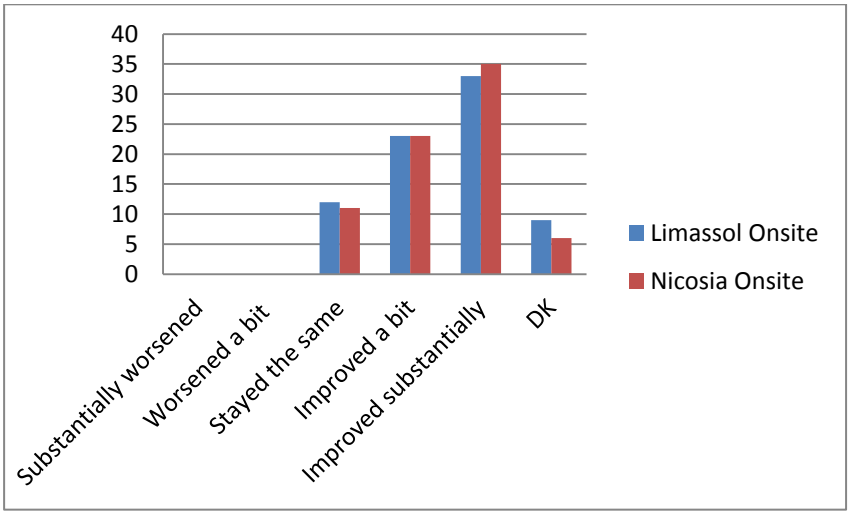


Figure 6.30: Questionnaire Findings: After your experience today have your thoughts toward the space changed? Would you say that they…

In order to gain knowledge on the success of the overall project users were asked on a scale of 1 to 5 if the events had positive impacts on their day. An extremely high percentage of 94% stated that they did answering 4 and 5, presenting success in the overall aim of a mood enhancing experience (Figure 6.31). Secondly participants were asked a series of questions from 1 to 5, in a randomised order each time. 86.8% totally agreed that they would like to see more playful design within the city (figure 6.32), with 84.9% believing that it is the 'municipalities' responsibility to provide these public spaces. In relation to the experience participants were asked if they could envision how public spaces could be changed for the better. 81% agreed partially or totally, with few respondents totally disagreeing at 4%. The author as one of the interviewers noted that some participants answered only 1 as they believed that they already held an understanding and creativity in how our public spaces could be revived, as such they disagreed with the statement. A more balanced view was seen when users were asked if they would visit more public spaces or pay for creative events in the city after their experience.

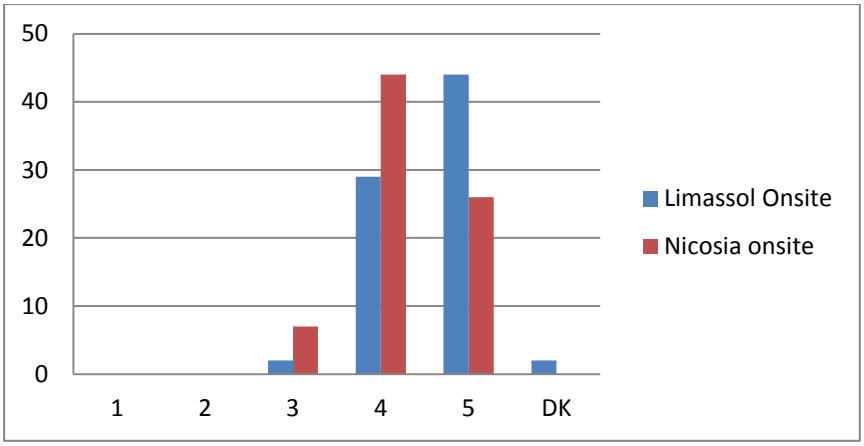


Figure 6.31: Questionnaire Findings: On a 5-point scale where 1 stands for "very negative impact", 5 stands for "very positive impact" and 3 in the middle stands for 'no impact', how would you assess the impact that your experience of the Inflatable has had on your day?

The issue of playfulness and its definition had been one of great debate during questionnaire testing as the action of play holds different meanings for all. In this sense the questionnaire did not set out to find the meaning of play, but simply if the participant felt as if they had encompassed a playful experience. The simple question: did you play today was asked, overall 62.5% believed they had indeed played, where as 34.9% stated that they hadn't and 2.6% were not sure (figure 6.33). Additionally after a few people had answered no to the question, they then returned to state, "actually I did have fun today, I think I did

play." In relation to the questionnaire results, these answers could no longer be changed as they were in a digital format.

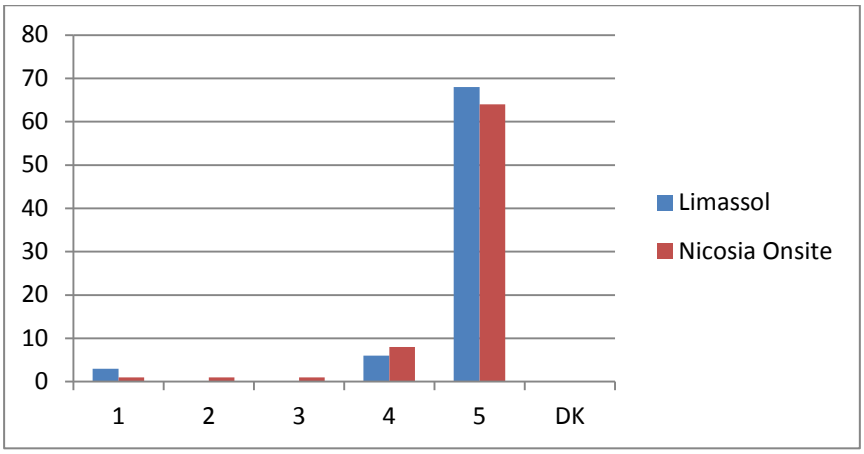


Figure 6.32: Questionnaire Findings: I would like to see more playful designs within the city.

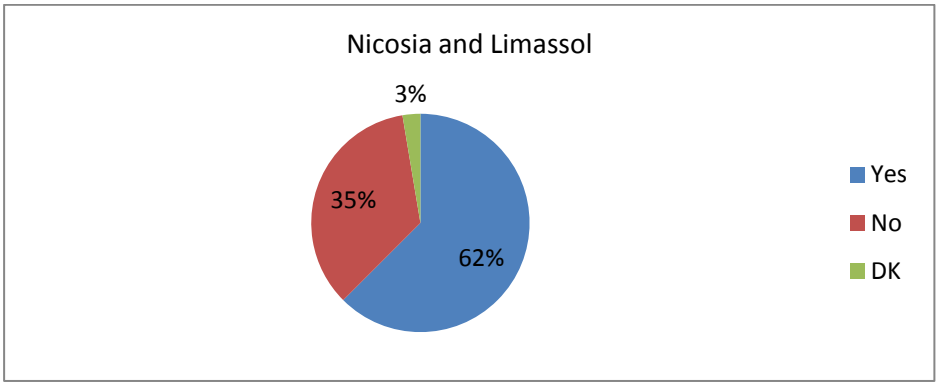


Figure 6.33: Questionnaire Findings: Did you play today?

Lastly personal data, gave the research an overall impression of the demographic of the participants. There were 20% more female to male respondents, and overall the majority age group was in the 25-34 category with 18-24 and 35-44 having a marginal difference, 50% held a bachelor degree and 35% a post-graduate degree, lastly 75% of respondents were of Cypriot nationality, with 18% being other EU and the remaining from other European countries, Asia or Africa. The variations in participants' ages and backgrounds allowed the study to achieve opinions from the general users of the space; the large percentage of Cypriot participants is in line with current usage and spatial setting as seen in the pre design observations.

6.6.2.2 Summary

Questionnaire results clearly revealed that users had a heightened sense of place during the implementation of designs. The installations allowed them to explore their creativity through spatial exploration and use of photography. The experience enabled them to create conversations with strangers that would not have taken place otherwise. A high percentage of participants felt as if they had experienced an act of play and that this playful setting had improved their perception of the space allowing them to enter spaces that they had never used before. Results point towards the aims of the investigation in improving social and spatial interactions by encouraging playful interactivity as a catalyst for interaction, utilising otherwise lost spaces, allowing freedom for the creativity of users and enhancing a sense of place.

6.7 Post Design Evaluation

Post Design evaluations were to set to provide the study with qualitative feedback. The employment of focus group feedback and expert interview aimed to gain insight into the underlying reasons for quantitative research findings and visual observations conducted pre and during the playful experience, furthermore, providing the study with public and expert opinions for the triangulation of research findings. Figure 6.32 illustrates the methodology employed during this stage of the research. The following sections will display the results of a post event focus group comprised of users from earlier public focus groups and subsequently an interview with Theopitsi Stylianou-Lambert, an expert in photography and levels of photographic interaction.

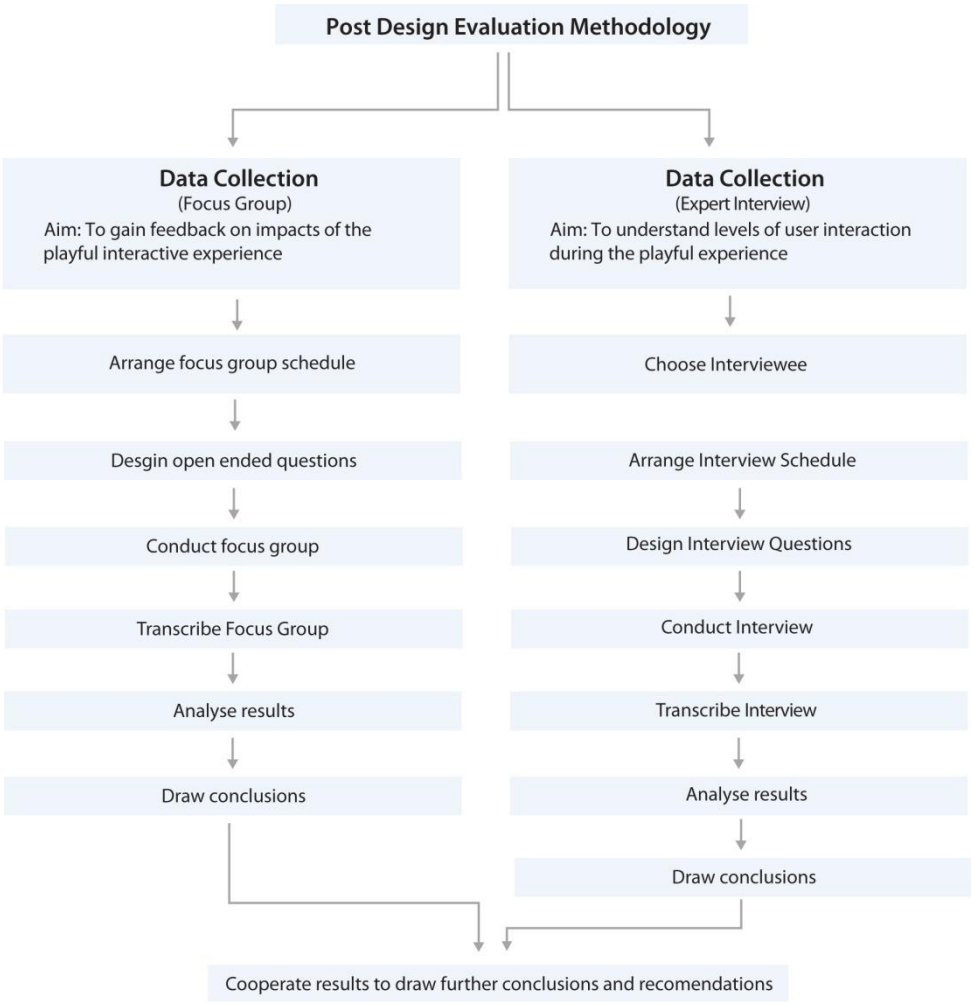


Figure 6.34: Post Design Evaluation Methodology

6.7.1 Post Design Focus Group

A post design focus group gained feedback on the implemented designs and the events as a whole. Participants of the previous two focus groups were invited again to participate in a follow on session, once the schedule was arranged leading questions (Appendix 3.4) were designed to gain feedback in relation to:

- Overall opinions on the events
- The perception of the sites post event
- Interactions with the inflatables and others
- Level of playfulness witnessed and experienced

6.7.1.1 Findings (Appendix 6.7)

Initially focus group participants did not realise the extent of the impact the inflatable would have upon the space and its users, they were taken aback by the results which they observed. After observations they were not surprised by the large percentage increase of users and users who entered the castle grounds. Additionally commenting that the change of atmosphere between day and night was interesting to witness and that lighting held the key to this, allowing participants to have varied experiences. One participant who visited the structure in Paphos at a later date commented that the space was too open and that in Limassol the spatial setting had a clearer flow from the outside to the inflatable and then to the castle itself.

In relation to the perceptions of the space they stated that nothing around the bubble or within the castle grounds would have been noticed without its presence and that indeed the inflatable was the attraction. As a future recommendation they suggested implementing new events all the time around the grounds, utilising the bubble as the means of inviting the public to view other events.

In terms of interactions the focus group were surprised by the number of people who asked questions, especially noting that during the short set up period, of which some were involved in the installation of the tapes, many questions asked and many conversations started surrounding the event and playful design, showing that interactions began at the point of initial setup. The focus group additionally pointed out that the public felt an overall importance and understanding through the ability to directly interact with people who knew

about the event and the designs themselves. As the public gained information they were freer to enjoy and understand the spatial experience. All participants stated that they spoke to someone that they did not know at least once during the installation days.

The discussion of playfulness began with asking the group if they felt as if they played, all agreed that they did and one even commented that if they didn't they would have simply left and gone home. Playfulness was seen with the bubble and through photography such as selfies, even commenting that some participants taking selfies with a tripod were seen by the public, these members of the public believed it to be an art installation for all to join in, showing that if you allow an out of the ordinary event others may have heightened creative thoughts.

6.7.1.2 Summary

Overall, the focus group gave insight into events as users of the creative spaces. Their surprise in the success of the playful events was welcome, prompting the ideas that others would have been also. Focus group opinions will be utilised to coordinate results from observational and questionnaire results within the following chapter to conclude evaluations and onward transfer to framework amendments.

6.7.2 Expert Feedback Interview 5, Theopitsi Stylianou-Lambert

The aim of the interview at the framework evaluation stage was to further understand the levels of photographic interactions observed during the investigation. An interview with Theopitsi Stylianou-Lambert assistant professor in the Multimedia and Graphic Arts Department of the Cyprus University of Technology and the coordinator of the Visual Sociology and Museum Studies lab was conducted. The expert interview was employed to:

- Gain additional knowledge of the subject matter from a professional view point
- Aid framework development
- Validate and cooperate current findings

The importance of photography as a method of interaction became apparent, as such the interview was chosen to "follow up on ideas, probe responses and investigate

motives and feelings which a questionnaire can never do" (Bell, 2005, pp.157). The interview following previous interview methodologies, aimed to have few structured questions as to prompt further discussions. Theopitsi was asked permission to record the interview via the method of a digital voice recorder to avoid note taking during the interview process thus concentrating on the interview and further questions. Additionally it aided the transcript of the interview (Appendix 6.8) where the knowledge gained could be reviewed.

6.7.2.1 Findings

The interview began with a conversation into the playful experience in relation to photography, Theopitsi noted that the playful experience is anything that makes us excited and that we want to share with others, expressing that this is why we witnessed a higher than normal percentage of photography during the events. Furthermore she suggested that photography is also a method of note taking to be looked at later.

In relation to follow on actions, the act of photography just as the event also has the possibility of a short life, you may take a photo and look at it again later or show it to someone. After a while this photo will be transferred to a computer and might not be re-visited or maybe years later, the same applies to social media, it might have short term impact but will eventually be surpassed by a new experience. Theopitsis research centres on photography and creativity; she views photography as a tool for self creativity. Photography is the tool and what the users does with this frame is the creative act. In the previous interview with Marco Canevacci, (Appendix 6.4) he commented that we now see the world through the rectangle lens, but what if this lens changed to a circle, this would be changing the tool that we work with. The addition of the smart phone to our everyday lives allows for increased photography, thus heightening creativity in our everyday lives.

In relation to the transfer to social media Theopitsi commented that if a person is not inclined to use social media in the first instance then a creative event will not change their minds to do so.

Discussions into the framework for interaction analysis began with the notion that photo and video being such a big part of communication left an impression on her. After discussing the dimensions of the framework Theopitsi shared her current research into the dimensions of photography, she explained that her research consists of photographs which have been taken of people posing in front of most popular sites in the world. Her research

has collected 3000 images where permission was received to use them for research purposes. Stating that:

> *"We are categorising them with the idea of interactions with spaces or objects. We have seen that most interaction is with the actual objects within the space rather than the spaces themselves. We are trying to categorise but the dimension we didn't look at was photographing the object itself, which you have. We concluded that we have 6 dimensions: 1. Simple posing, 2. Performing in the space (space as a stage) eg – outside pyramid – I dance like an Egyptian, 3. Pointing, 4. Interaction photographic – create a 3D Space – 2d back to 3d – example – holding up leaning tower of Pisa (This is the category where we actually witnessed the most examples), 5. Actions just to be photograph, 6. Some people photograph the photographer and the poser and the object.*
>
> (Appendix 6.8)

In relation to her research and the suggestions of the framework of interaction analysis Theopitsi suggested that the category of second hand photography be split further, possibly to posing and actions. Furthermore she made suggestions of strengthening the word collaborative experience within the framework for interaction analysis.

6.7.2.2 Summary

In summary to interview findings three key gaps in current findings were discovered: Firstly, photography as a tool for creativity within the playful experience, secondly, the life span of photographic interaction may be as short lived as the design artefact itself, but photography as a tool for documentation allows transfer and future abilities to re-live an experience. Lastly: In line with observational and questionnaire research finding the parameter of photographic interaction should be split and amended to accommodate the varying levels of photographic interactions. Findings will further be referred to during the triangulation of results and framework amendments within Chapter 7.

6.8 Conclusion

A collaborative approach with Urban Gorillas, enabled access to larger designs within the city, gaining 'man power,' and additional professional opinions to utilise current findings efficiently. There was a mutual understanding of the meaning of public space, as well as current problems in within public space. Pre event observations demonstrated that sites were significantly underutilised. Both had the potential to become centres of activity in relation to the notion of accessibility, but currently had no real incentive to invite users. In summary, a collaborative approach allowed research on a larger scale allowing framework parameters to be tested amongst a less subjective audience and sites which would attract a broader range of the public.

This chapter has provided: first, an overview to artefacts acting as tools for framework evaluation, second, the implementation process and finally, findings of evaluation methodologies to assess the impact of playful implementations, identifying potential attractions to designs and wider spatial experiences. Moreover evaluation methods delved into user perceptions of the spatial setting, level of success and the feeling of play, aiming to discover if:

- Social and spatial interactions were increased
- Spontaneity was encouraged as a catalyst for interaction
- Otherwise lost spaces were utilised
- Freedom for the creativity of users was allowed
- A sense of place was enhanced or created

Furthermore, findings of chapter 6 aimed to address principles presented within the frameworks for the construction of the playful interactive experience and interaction analysis for final conclusions and amendments within Chapter 7. Design artefacts benchmarked against framework suggestions revealed that spatial and social interactions significantly increased within the newly reformed sites. Increased spatial usage and a greater number of user actions were recorded during observations. Furthermore questionnaire results revealed that users' perception had been altered for the better during the implementation of the events. Interviews provided critical feedback on framework suggestions and produced designs supporting current findings along with additional knowledge of inflatable design and photography in relation to the playful experience.

Spontaneity and play permission was encouraged, but findings suggest that the original hypothesis of large numbers of physical interactions with the artefacts was incorrect. Despite the failure of physical acts of play, the design artefacts indeed acted as catalysts encouraging active participation of passersby but the encouragement was to visually engage in the experience encouraging a range of follow on actions. 62% of questionnaire participants believed they had encompassed the play experience, when coordinating this result with that of the observational studies, only one third were witnessed in the physical act of interaction with the inflatable. It may be concluded that participants saw other mediums as the act of play. Users were free to explore their creativity through, physical interaction, photography and dialogue. Behavioural mapping demonstrates that underutilised public spaces were redefined during the events thus creating 'place' in the minds of the users. The following chapter 'General Discussions' further delves into relationships between methodologies and their significance to one another, triangulating findings for research discussions and final framework amendments, thus addressing the aims and objectives of the investigation.

Chapter 7

General Discussions

7.1 Introduction

The playful interactive experience aims for increased sociability, personal creativity and experience in public space. Frameworks for the construction and analysis of the playful experience have built upon current research, expert opinions and conclusions research for design, chapter 6 displayed their subsequent evaluation.

Design artefacts at small and large scale testing revealed that spatial and social interactions significantly increased within newly reformed sites. Design artefacts indeed acted as catalysts encouraging active participation of passers-by. Results reveal encouragement was to visually engage thus inspiring a range of follow on actions. Users were free to explore their creativity through, physical contact, photographic connections and dialogue with acquaintances and strangers. Underutilised public spaces were given new meaning for the public to regain their free, accessible and open areas. Despite lower than expected levels of physical interactions the promotion of a sense of place was achieved.

This chapter discusses key issues of research findings, furthermore summarising difficulties and limitations of methods employed. There are two major sections of inter and intra discussions. Intra discussions examine methodologies utilised during this investigation. Inter discussions draws attention to connections between methodologies, triangulating findings and relating them to aims and objectives set at the onset of this investigation. This chapter attempts to relate findings to research objectives resulting in a discussion of frameworks, their amendments and overall research findings. The potential impacts of frameworks within the wider academic context aim to place the playful interactive experience as a sub method of the placemaking technique under categories of fun and activities. The framework for interaction analysis additionally allows the researcher to assess the levels of interaction with a given design. Finally, this chapter aims to give a definition for the playful interactive experience.

Following discussions, chapter 8 (conclusions and recommendations) provides conclusions placing the playful interactive experience within wider city and academic context, furthermore promoting future recommendations for the study.

7.2 Intra Discussion

7.2.1 Subject and Site Selection

The subject of this research was the general public within the urban realm. To test a playful experience for increased social and spatial interactions it was necessary to be conducted within the correct spatial setting. Testing theories within a controlled environment, promotes an invited context which has the possibility to bring about biased results.

It was important to gain correct ethical approval for privacy issues. The public were continually informed of their participation: posters outlining the research were placed during events and participants were made aware by the author and collaborators of the project. All personal data collection was stored within the investigators locked office and on an external hard drive, with the purpose of being destroyed post research; to date this has only been viewed by the author and her supervisors.

Frameworks aimed to act as tools for design and evaluation, focusing on the creation of experience, not dictating aesthetic outcome. The investigation took a collaborative approach: Co-production was an essential aspect as not to allow bias on the part of the author. To counteract this the author oversaw the design project dealing with the issues of permission, budget and practical aspects of a public realm project leaving the experience creation to be driven by the designers. Design implementation was required to take place within an easily accessible location.

Final site and subject selection was situated within larger scale, free and open public spaces of an historical and cultural nature, to objectively evaluate framework theories. Two sites were selected to distinguish if frameworks were effective within various locations. During framework evaluation, collaboration with Urban Gorillas in the Green Urban Lab project allowed the author to be involved in a larger scale design project which fully fulfilled the construction of the playful interactive experience brief. Furthermore this allowed for assessments to take place within free and open public areas with a less biased subject selection than the university campus to clearly evaluate the parameters of the frameworks.

7.2.2 Research Methods

Understanding current research into public space, placemaking and playful interaction was a vital part of this study (Chapter 2). The review of literature in key areas allowed for a consensus of current academic research to be brought together to a form first stage framework for the construction of the playful interactive experience in public space. Furthermore it allows this research to be placed within academic context. Following a review of literature, a series of methodologies were put into place to evaluate framework findings and test the relevance of best practices within the aims and objectives of this investigation:

- To increase social and spatial interactions within public space through the inclusion of playful interactions.

In order to:

- Encourage spontaneity as a catalyst for interaction
- Utilise otherwise lost spaces
- Allow freedom for the creativity of users
- Enhance a sense of place

When selecting appropriate methodologies it was important to keep in mind that subjects would be members of the public with no direct invitation to events, thus it was paramount to ensure the safety of the general public as well as to consider their personal rights while observing them. Projects for public spaces (2000) advise that the public are the key in creating successful public spaces.

Creswell (1994) outlines two separate routes of qualitative and quantitative approaches to research design, concluding in an identification of a multi method approach for the formulation of a triangulated research outcome. In the case of this investigation a multi method approach was deemed appropriate. Research for design provided design artefacts, while observational studies, behavioural mapping, focus groups and open ended expert interviews offered results of a qualitative nature. Onsite questionnaires and count up of users and actions provided the study with statistical data to balance public and professional opinion, thus allowing substantial academic outcomes for less subjective conclusions.

Certainly it can be hypothesised that if you place something within public space people will be intrigued to look, it was vital to take public opinion on the subject matter to triangulate any change in spatial usage. Final evaluation saw video cameras set up to record behaviour; it would be not feasible for the author to observe each angle and aspect of the experience firsthand. The employment of cameras as a method of data collection as inspired by Whyte (1980) and Ghel (2010) allowing for later review of user behaviour to accurately record results.

Pre-design it was assumed that data collection methods would be largely unbiased but post-evaluation it is important to highlight that people who agreed to answer the questionnaire or attend the post design focus group may have enjoyed the events prompting them to want to take their time to answer. Recognising this factor, it became vitally important to coordinate results to demonstrate changes in user actions and activities.

7.2.2.1 Research for Design

The primary aim of research for design was to utilise first stage frameworks to produce artefacts to act as 'tools' for evaluation. Playful designs aimed to test if principles were successful in the creation of catalysts for interaction. Research for design is a methodology adopted by design researchers, Scrivener (2011) explains that it is a model for understanding, designing, implementing and evaluating a design artefact for a research outcome. Scrivener (2011) noted that 'research for design', is carried out for aesthetic or experience output.

Research for design provided the study with two designs for public use fitting the playful interactive experience brief. Selecting existing designs at first stage testing ran the risk of not conforming to frameworks in all areas, leaving gaps in evaluation and revealing biased or subjective results.

The process of utilising research for design (figure 7.1) was more complicated than the researcher had anticipated. During the creation workshop the researcher recognised that designers found several terms of the frameworks overlapping and required clarification. Despite difficulties experienced outcomes informed framework amendments, deeming this stage to be vital feedback. Creating a clearer framework was important to onward transfer, additionally as a relatively new concept to designers; background information was required to explain the essence of the playful interactive experience in the context of public space.

This issue will be addressed as a future recommendation (Chapter 8) in the promotion of a toolkit or handbook for onward transfer of the frameworks following this investigation.

Figure 7.1: Research for Design, Let's Intervene. *(Personal Images)*

Framework evaluations studied playful artefacts for research analysis (Figure 7.2). The author, present at design workshops was able to utilise experience and expertise in the field of playful design for optimal results. Inflatable spaces were carefully analysed within the realms of the framework for creation and deemed appropriate. Findings allow for framework amendments and the recognition of further gaps in research.

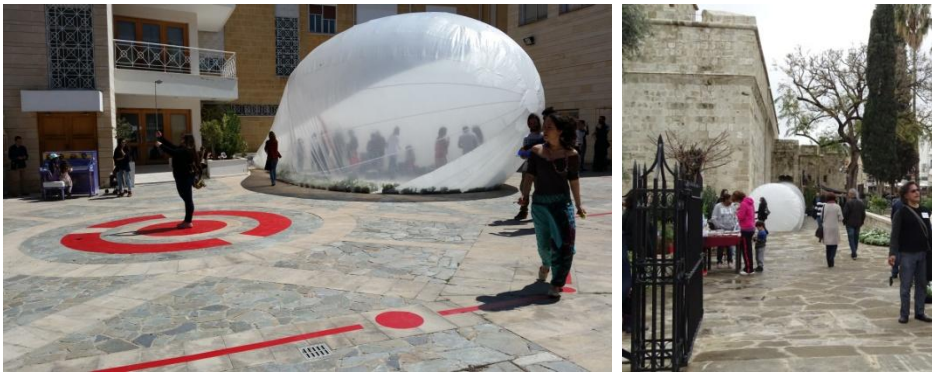


Figure 7.2: GUL Project, Nicosia and Limassol. *(Personal Images)*

7.2.2.2 Observational Studies

Observational studies provided visual and statistical data for comparison and analysis. During research for design evaluation observational techniques allowed the author to examine various levels of user interaction, providing amendments to the framework for interaction analysis. A limitation recognised during the process was that the two designs took place on the same day. It was difficult to gauge control over observations during implementation, as such members of the design group were employed to aid with data

collection, informing the researcher that a variety of cameras should be put in place during final evaluations.

The evaluation of 'let's intervene' focused on the interactions of users, whereas final framework evaluation observations provided visual mapping giving an overall impression of pre-design and altered spatial usage, allowing for a count up of users entering the space and their subsequent actions. It was recognised that observational methods are limited in understanding true user behaviour as you cannot judge users' thoughts or further onward actions. Additionally the researcher could witness someone performing an action, but cannot be 100% accurate of the subjects' intentions. Observational boundaries intended to be counteracted by the employment of further multi methods: a. onsite questionnaire, b. Focus group feedback and c. Professional opinions, to combine findings for a triangulated output.

A second boundary of observation studies was the employment of video recording. It was predicted the number of users would rise during framework evaluation and would become difficult to map participants' actions first hand. Data collection through video camera placement was indeed more effective but cameras distorted a number of angles required. Recommended for a future study, the researcher would employ extra camera placements for multiple view points of the same spatial setting.

7.2.2.3 Expert Interviews

The expert interview process took place at various investigation stages. The rationale for five interviews was to produce open ended questions, thus probing further discussion on subject matters. Each interview encompassed separate aims and objectives appropriate to specialist fields. The process of interview question preparation was lengthy as each interview encompassed different properties. Despite this, to ask the same question to the interviewees would have been unproductive as subjects were chosen due to their expertise in varying areas. To analyse found information each interview was recorded for later playback. All interviewees were familiar with the subject matter from their own professional stand point, before each interview commenced the interviewee was provided with information on the study as to direct the answers within the suitable field.

Using an open ended interview within the research process allowed for subjective opinions, the ideas gained through the interviews were utilised as suggestions rather than

concrete evidence, providing useful feedback on: frameworks, design artefacts and explanations of user actions.

7.2.2.4 Questionnaire Survey

Questionnaire studies provided statistical data informing the research with results to benchmark against observational, professional and public findings. Both stage questionnaires, focused on the public as their subject, the researcher was unaware of the background of participants; as such the questionnaires were devised to be as simple, legible and as user friendly as possible. First stage questionnaires were filled out by the participant, as testing took place within the university campus, consequently results of participant selection came back as rather biased especially in ages of participants.

Second stage questionnaires, took the style of onsite interviews, where the interviewer asked and filled in the questionnaires on a digital tablet. Site and subject selection had the possibility to be less biased, participation was optional, however it is important to point out that if a participant was truly uninterested they may have reacted negatively to give their time up, despite being informed that the questionnaire would take no longer than 5 minutes. A total of 81 participants answered the first questionnaire and 152 the second, yielding reliable and valid evidence for the study.

7.2.2.5 Focus Group Feedback

In a comparable format to expert interviews, multiple focus groups took place, each at different stages to: first, inform framework creation, second, gain public opinion on the current thoughts towards design testing sites and finally to give further opinions post design on the impact of their experiences.

The designer focus group aimed at feedback on framework principles in terms of its legibility and transfer. Furthermore, the focus group demonstrated how students could potentially utilise frameworks as academic instruments in the understanding of experience creation.

Second stage focus groups allowed the general public, the users of said spaces to have open discussions probing ideas into what they viewed to be public space and potential problems. The focus groups took on two roles: first, pre-design implementation opinions and

second, post design to gauge if opinions had altered after the inclusion of a catalyst for social interaction.

The phase of transcribing focus groups findings was a lengthy process; each lasted approximately an hour. This was aided by digital recording for the correct transcript. As with expert interviews, focus groups do not provide research with concrete statistical data. Observational studies and employment of a questionnaire survey will triangulate findings to provide the investigation with an academic level outcome.

7.2.2.6 Summary

Limitations of methodologies aimed to be counteracted by a multi method approach. Findings aimed to lean one upon each other to produce informed academic conclusions. The author recognised that the employment of each methodology single-handedly would have brought about biased results unable to answer the overall aims and objectives of this investigation. The evolutionary methodology was a complicated and lengthy process; despite the extensive time frame each step of the research process provided validation for the author and research findings.

Indeed these methodologies yielded results in reasons why user behaviour occurred but it must be pointed out that a level of bias is observed: research for design, is dependent on the level of creativity and interpretation of a project brief, observations do not allow insight into users thoughts, questionnaire survey and focus group feedback participants may have enjoyed the events thus prompting their participation, finally, expert opinions have the potential to be subjective towards their own area of research. Despite aiming to triangulate results it is still important to point out the limitations and benefits of each method as displayed in Table 7.1. The following section of Inter Discussions continues to discuss the connections between methodologies, triangulation of research findings finally the formation of final stage frameworks for the construction and analysis of the playful interactive experience.

Table 7.1: Advantages and Disadvantages of Methodologies

Methodology	Advantages	Disadvantages
Research for Design	• Provides 'tools' for onward testing • Allows research findings to be implemented • Provides a range of skills/ approaches to design development	• Dependent of level of creativity and interpretation of project brief • External factors may hider design output (Budget/Time Frame/Permissions)
Observational: Behavioural Mapping	• Supplies visual output of statistical data • Supports quantitative data collection • Access to real life situations	• Intensions of participants are unknown • Subjective due to researchers opinion • Time Consuming • Real – Time variables (Camera/view obstructions) • Participant may act unnaturally if observations are known
Observational: Counting	• Provides statistical data • Straightforward Analysis • Access to real life situations	• Intensions of participants are unknown • Time Consuming • Real – Time variables (Camera/view obstructions)
Focus Group Feedback	• Supplies a broad range of opinions • Offers user feedback • Provides opportunities to delve into reasons behind actions	• Time Consuming • Subjective due to interest and enjoyment • Topics may steer off subject
Questionnaire Survey	• Minimal time to calculate results • Supplies statistical data	• Subjective due to interest and enjoyment • Requires a large amount of subjects
Expert Interviews	• Expands understanding • Allows researcher to obtain detailed information • Clarifies statistical data	• Time Consuming • Method may be subjective due to field of expertise

7.3 Inter Discussions

7.3.1 Connection between Methodologies

This section discusses connections between methodologies to compare and triangulate results. Design artefacts acted as tools for evaluation, supplying the research with 'subjects' to analyse within the investigations aims and objectives. Later methodologies fell under the category of evaluation where their connections allow for conclusions and future recommendations. Overall, methodologies assessed the impact of playful implementations which fitted the framework brief, identifying potential attractions to the designs and wider spatial experiences and moreover delving into user perceptions of the spatial setting, level of success and the feeling of play, aiming to discover if:

- Social and spatial interactions were increased
- Spontaneity was encouraged as a catalyst for interaction
- Previously lost spaces were utilised
- Freedom for the creativity of users was allowed
- A sense of place was enhanced

The following sections analyse and compare results between methodologies. More specifically they discuss findings in relation to aims and objectives of the study, setting out to discover if methodologies have fulfilled investigation goals. Each of the research aims and objectives are analysed through triangulation of findings. Furthermore conclusions aim to provide final framework amendments.

7.3.2 Play Permission as a Catalyst for Social and Spatial Interaction

The primary aim of this investigation has been to increase social and spatial interactions within public space through the inclusion of playful interactions. The inclusion of playful interactivity would not be possible without the employment of the early method of research for design where artefacts acted as catalysts to interaction. Without play permission spaces lacked the temporary spark of experience which this investigation has identified to be a potential missing link in public space. First stage research for design provided findings for framework development. Therefore discussions in relation to aims and objectives of the study will primarily concentrate framework evaluation findings outlined in chapter 6.

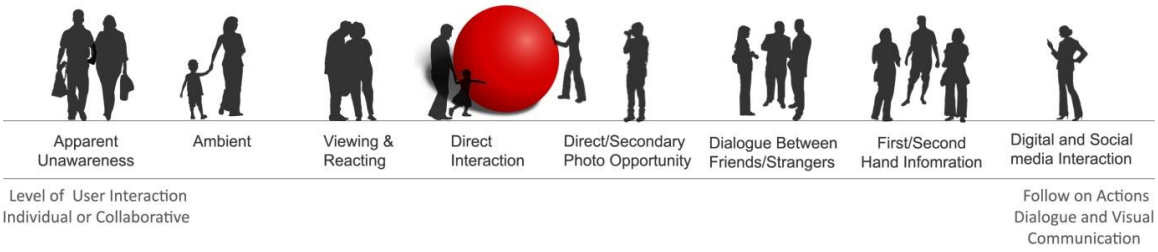


Figure 7.3: Framework for Interaction Analysis with the Playful Interactive Experience (V.3)

Research findings in relation to the framework for interaction analysis (figure 7.3) reveal increases in social and spatial interactions as well as a range of follow on actions. In relation to *Levels of User Interaction* as predicted numbers of users across both sites increased during the observed events, most significantly the number of users who entered the sites dramatically increased. Data revealed that the playful offering visually enticed users to engage at various levels. As displayed in figure 7.4 photographic data collected through observations highlights the four levels of interaction with implemented designs.

Figure 7.4: Levels of User Interaction.
(Personal Images and Images courtesy of Urban Gorillas)

7.3.2.1 Increased Social Interactions

User interactions are reciprocal processes of exchange and social activities which occur in reaction to a design experience. Interactions can be characterised as mutual, but as the framework for interaction analysis recognised there are numerous levels of social and spatial interactions. Results revealed that increased social interaction was present due to playful designs acting as stimuli to the interaction process. It is positive to witness findings of participant observations, questionnaires and focus group feedback point towards comparable results, highlighting that members of the public met and spoke with an increased number of individuals, acquaintances and strangers alike within the sites during the design implementation days (Tables 7.2-7.4/Figure 7.5/Appendix 7.1).

Table 7.2: Questionnaire Findings: Did the inflatable provoke any discussion?

Q. 3 Did the inflatable provoke any discussion?	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
Yes	118	77.5%	63	81.8%	55	73.3%
No	33	21.7%	14	18.2%	19	25.3%
DK	2	1.3%	1	1.3%	1	1.3%

Table: 7.3: Questionnaire Findings: Were these discussions with...

Q. 4 Were these discussions with..	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
Only Friends/Family	114	96.6%	61	96.8%	53	96.3%
Only Strangers/passers-by	4	3.38%	2	3.2%	2	3.7%
Both	40	33.9%	21	33.3%	19	34.5%
Respondents	118		*63*		*55*	

Observational counting pre-event demonstrated few users in conversation, whereas during events dialogue substantially increased especially during Saturday observations as displayed in table 7.4. Due to a lack of users pre-event within the Nicosia site it could be argued that this increase is purely conversations between acquaintances but when benchmarking results with questionnaire data seen in tables 7.2/3 82% of participants conducted conversations prompted by events, of these discussions 34% were with someone they didn't know. In comparison, a large scale questionnaire of a representative sample of the Cypriot public, undertaken by Urban Gorillas in 2014 stated that only 6% of the public had conversations with people they did not know within Cypriot public spaces (Merry and Carraz, 2016). Furthermore focus group feedback revealed they spoke to strangers due to

public curiosity, suggesting that once members of the public were informed about the playful events many successive conversations had the potential to transfer information.

Table 7.4: Comparison of User Conversation Pre and During Design Implementation

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Talking	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	20	20%	32	40%	55	45%	12	23%	64	36%	27	18%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	6	21%	7	10%	54	56%	8	11%	4	10%	39	22%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	0	0%	5	11%	75	41%	91	46%	22	17%	38	27%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	0	0%	0	0%	168	44%	18	29%	11	23%	117	36%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	0	0%	82	39%	2	1%	0	0%	41	25%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	68	40%	3	23%	8	15%	69	50%
Total Number Observed	0		0		171		13		53		138	

Figure 7.5: Increased Sociability, Limassol. *(Personal Images)*

41.5% of overall questionnaire participants came across events through word of mouth (Table 7.5), revealing the importance of dialogue transfer and how playful interaction can increase social interactions in underutilised settings. Furthermore, 31.7% of participants heard about events on social media highlighting dialogue and visual transfer have the potential to be transferred. This investigation aimed to direct the public back to a basic state

of physical play rather than a technological approach, but evidently using social media communication allows interactions and experiences to go full circle by exposing events and bringing the public to a physical playful experience.

Table 7.5: Questionnaire Findings: How did you hear about the inflatable?

How did you hear about the inflatable?	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
TV and/or Press	9	5.9%	3	3.9%	6	8.0%
Social Media	48	31.7%	16	20.8%	32	42.7%
The events/activities	9	5.9%	3	3.9%	6	8.0%
Invitation	25	16.4%	13	16.9%	12	16.0%
Word of Mouth	63	41.5%	26	33.8%	37	49.3%
Tape installation	2	1.3%	1	1.3%	1	1.3%
Surprise Encounter	27	16.2%	22	28.6%	5	6.7%
Other	4	2.6%	2	2.6%	2	2.7%
DK/ NA	0	0.0%	0	0.0%	0	0.0%
Respondent	152		77		75	

7.3.2.2 Increased Spatial Interactions

A clear enhancement of spatial communication was witnessed as seen in figure 7.6, prior evaluations into the accessibility of the large scale sites concluded that areas encompassed the potential to be approachable and obtainable. The question which remained was: if the spaces encompassed accessibility why they were currently underutilised? Pre-design evaluations highlighted that there may have been a false sense of privacy due to the presence of open gates and walls, deeming them a reason for current failure. In line with projects for public spaces (2000) a site which has misleading or poor entrances my hinder a user from entering a space. The implementation of the playful inflatables aimed to counteract this by promoting spatial access encouraging user choice and active participation.

Pre event, within Limassol, a high percentage of recorded actions were users walking straight in and back out again when no experience was offered. Observations revealed that Limassol had a greater number of users' pre-design, in comparison with Nicosia, this is in line with the touristic nature of the city. Furthermore, observational findings and focus groups revealed no apparent spatial offering or activity to invite them into the sites, as such were more in favour of the commercial outdoor seating offerings of surrounding restaurants and bars. Questionnaire results confirmed this lack of usage; only 27% had entered castle grounds in the last 12 months. This low percentage suggests that an accessible, clean space which offers permanent public offerings was not enough to entice users. Permanent residents suggested they wanted to see free activities with little regulations or obligations, in short to be given a choice. The offering of the inflatable allowed the perception of space to be altered by giving new meaning, thus enticing varied members of the public to enjoy and interact with the new experience.

Figure 7.6: Increased Spatial Interactions, Limassol and Nicosia. *(Personal Images)*

As predicted numbers of users across both sites increased during the observed events, most significantly the number of users who entered the sites as seen in appendix 6.3 dramatically increased. Behavioural mapping demonstrated attraction to the sites through increased percentage of actions displayed (Figures 7.7/7.8). Furthermore, public opinion stated that 88% were attracted to enter the spaces because of the inflatable either 'much' or 'very much'. Without a playful invitation the post-design focus group stated the public would not have been aware of any other spatial offerings, suggesting that events should be held time and time again in order to re-utilise the bubble as a method of drawing in the public. The questionnaire study revealed that 75% of surveyed public had been given the incentive to visit more public spaces on the city after their experience.

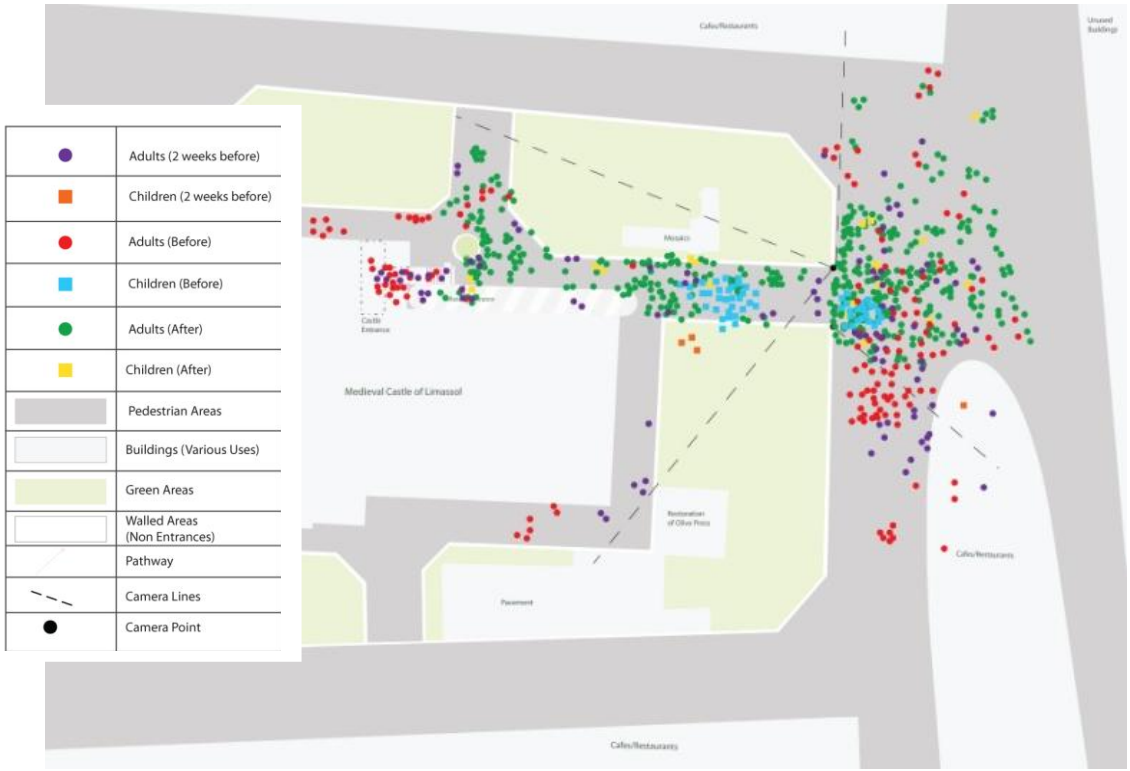


Figure 7.7: Increased Spatial Interactions, Limassol

Table 7.6: Levels of Spatial Interaction, Limassol (Overall Totals)

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	182	9%	194	11%	1087	37%
Viewing & Reacting	122	6%	165	10%	305	11%
Ambiance/Apparent Unawareness	1727	85%	1348	79%	1515	52%
Total	2034		1704		2907	

Relating findings to the framework of interaction analysis as seen in table 7.6, within the castle grounds pre-event, 182 people entered during week 1 of observations and 194 in week 2. During the event 1087 directly went in to the spatial offering, a significant increase in direct interaction. Members of the public who stopped and looked inside the grounds were counted to determine levels of viewing and reacting. Pre event, 122 actions of observations were recorded in week 1, week 2, 165 and during implementation days 305. The act of viewing and reacting more than doubled from week one and almost doubled from week 2, concluding that users were now given an experience to react to. In relation to ambient or apparent unawareness, observations are unable to judge between the two, as such it is concluded that the users who did not interact encompassed these sates. Week 1, pre-event 85% of users did not directly interact, or observe, week 2 79% and during the design experience 52% did not directly interact or observe, revealing a significant decrease. A breakdown of the levels of Interaction at each stage of the investigation can be found in Appendix 7.2.

Table 7.7: Levels of Spatial Interaction, Nicosia (Overall Totals)

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	5	2%	6	1%	502	53%
Viewing & Reacting	18	9%	49	71%	182	19%
Ambiance/Apparent Unawareness	184	89%	642	92%	263	31%
Total	207		697		947	

A substantial increase of users directly interacting with the Nicosia site was observed (Table 7.7/Figure 7.8), pre-event, week 1, 5 people entered and only 6 during week 2, the implementation days saw an increase to 502 during the same observational periods. Viewing and reacting, pr-event, week 1 observed 18 actions and week 2, 49. During the events this rose to 182 demonstrating visual enticement of the playful experience. In relation to ambiance or apparent unawareness, week 1 89% were ambient or unaware and week 2, 92%. During events only 31% encompassed these acts.

Figure 7.8: Increased Spatial Interactions, Nicosia

Table 7.8: Questionnaire Findings: To what degree did the inflatable attract you to enter the space?

To what degree did the inflatable attract you to enter the space?	Not at all	A little	Somewhat	Much	Very much	DK	Respondents
Nicosia	0	1	8	23	42	1	75
Percentage	0%	1.3%	10.7%	30.7%	56.0%	1.3%	75
Limassol	0	3	6	16	52	0	77
Percentage	0%	3.9%	7.8%	20.8%	67.5%	0.0%	77
Limassol and Nicosia	0	4	14	39	94	1	152
Overall Percentage	0%	2.6%	9.2%	25.6%	61.8%	0.6%	152

The newly accessible spaces allowed the public to access a new city link, in line with Lefaivre and Dolls (2007) theories of the PIP city. 87% of the questioned public felt as if the inflatable had attracted them to enter the space (Table 7.8). Overall, most users came to the event by car (68.5%) and 26% by foot, accessibility promotes that a site should be suitable for walking in terms of proximity to the wider city, users were free to walk around safely and experience to a level of which they felt comfortable.

Table 7.9: Questionnaire Findings: After your experience today have your thoughts toward the space changed?

After your experience today have your thoughts toward the space changed?	Substantially worsened	Worsened a bit	Stayed the same	Improved a bit	Improved substantially	DK	Respondents
Limassol	0	0	12	23	33	9	77
Percentage	0.0%	0.0%	15.6%	29.9%	42.9%	11.7%	77
Nicosia	0	0	11	23	35	6	75
Percentage	0.0%	0.0%	14.7%	30.7%	46.7%	8.0%	75
Nicosia and Limassol	0	0	23	46	68	15	152
Percentage	0.0%	0.0%	15.1%	30.3%	44.7%	9.9%	152

In summary, pre-event results reveal the lack of spatial offerings prompted the public to quickly move on. Tourists and school groups had an interest in the sites but local residents enjoyed commercial offerings. As such, the events caused an accessible nature within the sites, changing user perceptions. Overall 78% believed their experience had changed their thoughts towards the spaces ‘substantially’ or ‘a bit’ (Table 7.9) and 68% of the same users were considering visiting more public spaces in the city. Furthermore the catalyst of a playful design attracted the public to create an engagement with the playful designs, each other and further spatial experiences allowing for user choice upon the levels of interaction and subsequent follow on actions.

7.2.3.3 Encourage Spontaneity as a Catalyst for Interaction

Spontaneity was encouraged through an out of the ordinary experience of play permission within underutilised or forgotten public spaces (Figure 7.9). Eutis, (2012) comments that it is us that are temporary, we grow, we change, objects stay the same but it is our relationship with these objects that changes over time. Once a design has been implemented into the public realm for a significant amount of time its quality of interaction will decline.

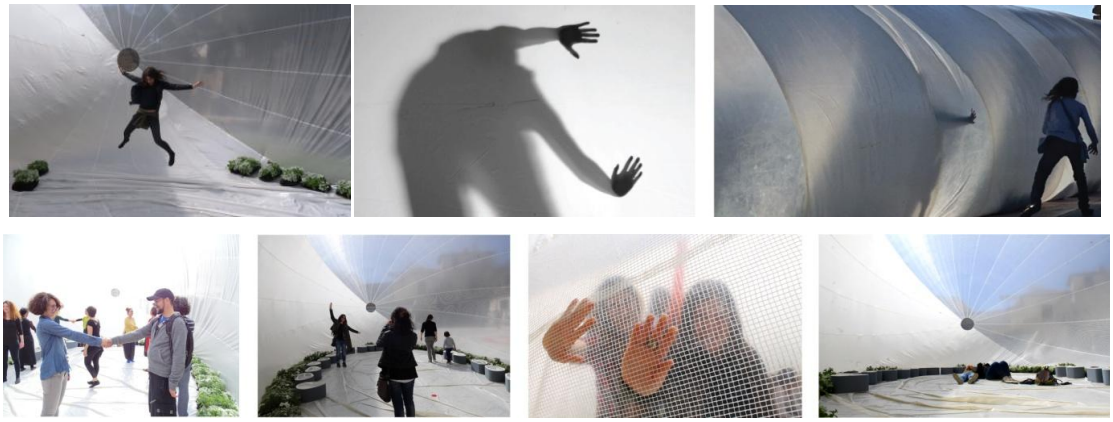


Figure 7.9: Encouraged Spontaneity. *(Personal Images and Images Courtesy of Urban Gorillas, Charalambos Sergiou and Marios Christophidies)*

To encourage spontaneity a fast and direct onsite assembly was encouraged, it was assumed that the less public exposure the more ambiguous later interactions would become. The post design focus group discussed the inflatable set up, revealing that despite a short inflation time the public became intrigued. The inflation created a sense of excitement allowing the public to encompass a relationship with the artefact, other users and designers by viewing a part of its formation.

Furthermore frameworks stated that a welcoming and attractive atmosphere is created to encourage incentive, active participation, and onward transfer. Pre-design focus group participants stated they would be inclined to go inside to run and jump relating the action to a traditional sense of inflated space. Moreover, the familiarity of something big and something they could touch and follow would entice them to engage. The simplistic solutions permitted users to recognise 'rules' of how to interact and a no explanations approach enabled users to 'play the game' within the realms of their own creativity. Despite the ideal of a random encounter, only 7% of the questioned public came across the experience randomly.

7.2.3.4 Utilise Otherwise Lost Spaces

Observations highlighted that only 1/3 of users entered the inflatables during observed time periods suggesting they explored the spatial offering but were indeed given user choice. In addition, discovery, the pleasure from finding out the consequences of actions is also perceived as an act of the playful experience. Visual mapping determined that actions appeared at random locations demonstrating an increase in discovery of the spatial setting.

Suitability in relation to diversity, user choice, movement, safety and disability awareness are suggested to promote safe experiences, aiming for freedom of participation. It was observed that playful offerings initially attracted people in to the space, which in turn attracted more people to participate. In the words of William Whyte “what attracts people most, it would appear, is other people” (1980 pp.19).

Free movement in and around the design experience was also evident (Figures 7.10/11). Designs did not block entrances or paths of movement. Free movement can also be linked to safety and disability awareness; public safety should always be at the forefront of any public intervention. In conclusion, the playful events allowed a spatial setting suitable for all from diverse backgrounds and ages, allowing users to choose their own level of social and spatial interaction in a safe and supported environment.

Figure 7.10: Reutilised Spaces. *(Personal Images)*

Figure 7.11: Inflatable Placement

7.2.3.5 Allow Freedom for the Creativity of Users

Play permission invites users to interact through a less serious and more imaginative purpose allowing for a deeper engagement with themselves, the object, others and spatial setting. Pre-design focus groups suggested that something interactive with light and sound along with textured materials would entice them to interact.

Figure 7.12: Freedom for the Creativity of Users. *(Personal Images)*

Active and fun elements promoted play and humour, approximately one third of users entered the inflatables during the observed times, where they physically engaged with the experience and explored its spatial offerings (Figure 7.12). The closed nature of the inflatable, despite its window of transparency, may have caused concern, likewise purely observing play permission may have been enough to satisfy the individual. Focus groups suggested that they would physically interact but predicted that others may be afraid.

Table 7.10: Questionnaire Findings: Did you play today?

Did you play today?	Nicosia	Percentage	Limassol	Percentage	Nicosia and Limassol	Overall Percentage
Yes	48	64.0%	47	61.0%	95	62.5%
No	26	34.7%	27	35.1%	53	34.9%
DK	1	1.3%	3	3.9%	4	2.6%
Respondents	75	75	77	77	152	152

The meaning of play is ambiguous, as outlined within the review of literature and research findings in chapter 2. A focus group participant stated that the general public saw play as an activity for children. Questionnaire studies set out to discover if users felt as if they had encompassed a playful experience, overall, as displayed in table 7.10 62.5% believed that they had. Interestingly, user action statistics did not record many physical acts of play, remaining at approximately 5% of user actions, from this perspective public opinion

suggests that users perceived their experience as playful through other forms of engagement. The act of observing, talking and photography were high on the list of actions, for many these interactions of fun could be perceived as play.

Photography, a form of visual interaction or follow on action has become an instinctive nature in contemporary society due to the accessibility of smart phones. User action statistics within the observed hours suggested that in Limassol, users continued to photograph corresponding to pre-design results in line with the touristic nature of the space, where as in Nicosia it had risen as a form of visual engagement to approximately 12% (Table 7.12). Furthermore questionnaire results (Table 7.11) revealed that overall 68% took photos, photographing, the inflatable (80%), others using the inflatable (42%) and 'selfies' (14%). Common practice of photography follow up in contemporary culture is uploading to social media, overall, 63% of those who photographed had the intention of a transfer to social media, thus increasing exposure to the experience, allowing others to interact digitally. Outlined by focus group participants, they suggested that the playful designs would give incentive to photograph first, upload to social media and then follow to directly interact.

Table 7.11: Questionnaire Findings, Did you take any photos or videos? Will you upload to social media?

Did you take any photos or videos of the events?	Limassol	Percentage	Nicosia	Percentage	Limassol and Nicosia	Percentage
Yes	53	68.8%	50	66.7%	103	67.7%
No	24	31.2%	25	33.3%	49	32.2%
Respondents	77		75		152	
Will you upload to social media?						
Yes	35	66.0%	30	60.0%	65	63.1%
No	16	30.2%	16	32.0%	32	31.1%
DK	2	3.8%	4	8.0%	6	5.8%
Respondents	*53*	53	*50*	*50*	103	103

Figure 7:13: Photographic Interactions. *(Images courtesy of Urban Gorillas)*

Table 7.12: Number of User Actions (Photography) Compared

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Photography	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	2	2%	2	3%	14	11%	2	4%	22	12%	21	14%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	2	7%	19	24%	9	9%	2	3%	2	5%	37	21%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	9	15%	4	9%	32	17%	11	6%	23	18%	16	11%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	16	43%	2	3%	26	7%	9	15%	9	18%	29	9%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	0	0%	26	12%	0	0%	5	11%	1	1%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	20	12%	0	0%	1	2%	16	11%
Total Number Observed	0		0		171		13		53		138	

Theopitsi Stylianou-Lambert, an expert in photographic interaction commented that anything fun prompts us to explore our creativity through photography (Appendix 6.8). Photography as a tool for creativity was witnessed during observational periods, revealing that play permission offered not only the primary physical and intellectual aspects of play which have been discussed thus far during the thesis. Furthermore photography provided a way for the public to visually engage with the creative tool for experience output. Post-design focus group members mentioned that they saw 3 girls taking a 'selfie' with a tripod inside the inflatable, a member of the public believed this was part of the event to go to the camera and take a selfie as a memory. This act demonstrates that play permission permitted creative thinking and possibly that without the presence of the inflatable it would be assumed that they were just taking a photo.

In conclusion the offering of a playful experience allowed the general public to engage with themselves, exploring their own creativity, each other and the spatial setting through a variety of actions. The public were asked on a 5 point scale if they would like to see more playful designs within the city, 87% totally agreed and 9% mostly agreed, in line with focus group suggestions the events provided a game to remove users from their normal life. These results are in line with the findings of the smaller scale playful experiences outlined in chapter 5 where 89% believed that the element of fun is an added benefit.

7.2.3.6 Enhance a Sense of Place

Literature revealed that initial reactions build spatial experience, negative responses witnessed during pre-observations resulted in lack of spatial usage. The unexpected nature of the design resulted in good humour and playful participation aspiring to captivate the audience through design output to promote sensation, stimulation, fantasy and pleasure. Bachelard (1994) commented that place is grounded in imagination. Through the creation of initial impacts of excitement, users create immediate experiences and emotional connections, once these attachments are established a sense of place can be achieved.

Table 7.13: Questionnaire Findings, how would you assess the impact on your day?

How would you assess the impact on your day	1 (very negative impact)	2	3 (no impact)	4	5 (very positive impact)	DK	Respondents
Limassol	0	0	2	29	44	2	77
Percentage	0.0%	0.0%	2.6%	37.7%	57.1%	2.6%	77
Nicosia	0	0	7	44	26	0	75
Percentage	0.0%	0.0%	9.3%	57.3%	33.3%	0.0%	75
Nicosia and Limassol	0	0	9	73	70	2	152
Overall Percentage	0.0%	0.0%	5.9%	48.0%	46.0%	1.3%	152

The previous section of play permission demonstrated that a large percentage of users indeed felt a feeling of active participation, fun, creativity and play as reactions to the inflatables. Questionnaire results allowed an insight into the overall feeling of place as well as the change in user perceptions of the existing spaces. Questionnaires revealed that on a 5 point scale 87.4% of participants were enticed to enter the space because of the playful enticements. Interestingly, only 21 of the 77 participants questioned at the Limassol site had been in the grounds in the last 12 months, leaving 56 who had not entered at all. It can be suggested that these participants felt no need or feeling of place to warrant entry. Furthermore as displayed in table 7.13 the impact that the experience of the Inflatable had on the participants' day displayed encouraging results, 48% answering positive and 46% very positive.

7.2.3.7 Summary

Research findings aimed to determine if framework principles were accurate through design artefacts acting as stimuli to encourage participation of the general public. Benchmarked against aims and objectives of the investigation, the placement of playful interactive experiences exposed a range of interactions. Findings revealed encouragement to visually connect thus inspiring a range of follow on actions: physical contact, photographic connections, dialogue, transfer to social media and an exploration of extended spatial offerings. Underutilised public spaces were given new meaning, establishing free, accessible and open areas for public enjoyment. Despite lower than expected levels of physical interactions the promotion of a sense of place was achieved. Furthermore this enhances the idea of intellectual play engagement through a viewing and reacting response rather than a purely physical output.

7.3.4 Framework Amendments

Previous sections have discussed if the playful interactive experience can increase social and spatial interactions, encourage spontaneity as a catalyst for interaction, utilise otherwise lost spaces, allow freedom for the creativity of users and enhance a sense of place.

In response to research findings, outcomes have impacted on the frameworks for the construction and analysis of the playful interactive experience. Research findings reveal that investigation outcomes have been largely successful in meeting the aims of increasing social and spatial interactions. The following sections discuss how findings impacted on current frameworks (Figure 7.14/7.15), outlining their amendments and redesign.

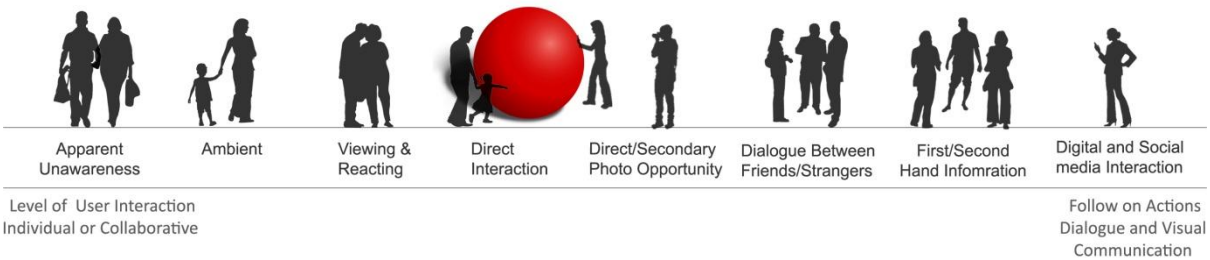


Figure 7.14: Framework for Interaction Analysis with the Playful Interactive Experience (Version 3)

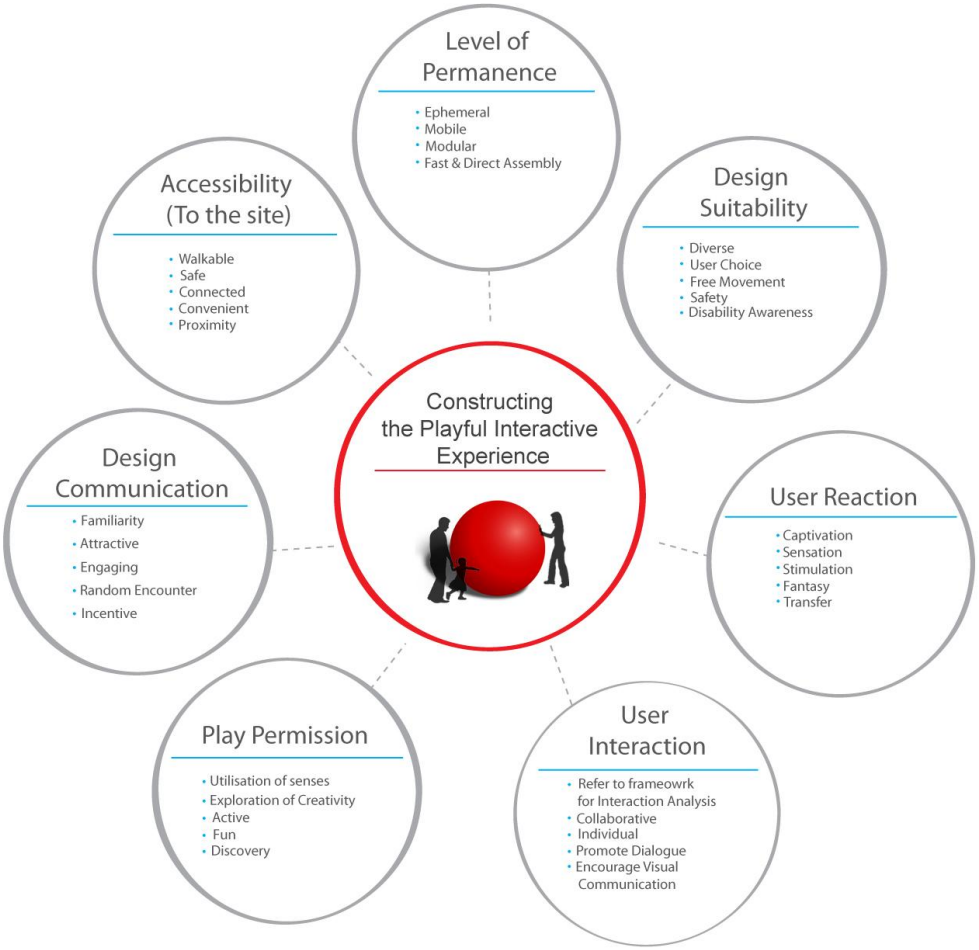


Figure 7.15: Framework for the Creation of the Playful Interactive Experience (Version 2)

7.3.4.1 Framework for Constructing the Playful Interactive Experience

Re-definition: Prior designer feedback suggested frameworks should be refined in order to be simplistic and user friendly. Post research evaluation, framework sections and sub-headings were re-visited to form clearer definitions:

- 'Design' is removed from the sections of '*Design Communication'* and '*Design Suitability.'* Experience is the intended output of the playful interactive occurrence, not aesthetics; consequently headings are simplified to avoid confusion.
- 'User' is removed from, '*User Interaction'* and '*User Reaction.'* Multiple states of actions and interactions occur between the user, design artefacts and the extended spatial experience, not merely between each other; accordingly headings are simplified to avoid confusion.
- *'Level of Permanence'* is redefined as *'Lifespan'*; implications remain the same referring to the length of time a design will be employed. Nevertheless the heading is shortened for simplicity.
- *'Utilisation of senses'* is renamed *'Utilise Senses,'* to be simplistic and user friendly, promoting the designer to enable users to reach their senses.
- *'Exploration of Creativity'* developed into *'Allow Creativity.'* Designers must promote the act of creativity; participants should encompass the freedom to be creative to a level at which they feel comfortable.
- *'Discovery'* is redefined as *'Enable Discovery'* prompting that the designer should facilitate the act of discovery to engage in a design as well as the wider spatial experience.

Removal: A significant finding prompted by the post design focus group revealed that the public became intrigued during the inflation set up. The inflation created a sense of excitement allowing the public to encompass an increased relationship with the artefact by viewing a part of its formation. Within the section of '*Communication'*, a *'Random Encounter'* was suggested. Focus group feedback, observations and questionnaire results revealed that a lack of a random encounter did not affect the overall experiential outcome, concluding that this parameter of the framework should be removed. Furthermore *'Random Encounter'* was linked to a 'Fast *Assembly Time'*, in parallel this has also been removed from the framework due to public intrigue.

Additions: The playful interactive experience aims to pose no offence to users; a *'neutral context'* has been added to the category of suitability, promoting appropriateness to all of society despite age and background.

During design, planning and implementation of the GUL project, the author was able to observe the process set out to create an inclusive and safe environment for all. In response, *'safety'* once within *'Design Suitability'* has been removed and transferred to a category of its own. The new sub-headings within *'safety'* now include:

- *Conform to local legislation:* To adhere to local rules and regulations regarding safety and implementation of public space projects
- *Spatial Analysis:* To perform a spatial analysis and risk assessment to ensure a safe event.
- *Clear Design Elements:* Clear design intentions and safety in materials and construction, passageways should not be blocked and users allowed free movement.

Furthermore attention was drawn to the environmental, economic and social implications of the GUL event prompting the addition of a section of *'Sustainability'*:

- *Environmental consideration*: Consideration to the existing environment and impacts of an implemented design.
- *Social Awareness:* Awareness of social impacts for the general public and surrounding community.
- *Economic Impacts:* Impact of economic transfer to surrounding businesses.
- *Lifecycle analysis:* Analysis of design elements from idea to end of life.

The subcategories of 'Accessibility,' 'Communication,' 'Interaction,' 'Reaction' and 'Lifespan' remain the same displaying that earlier findings based upon secondary research findings and a research for design methodology were accurate. Table 7.14 displays a comparison of the two stages for the construction of the playful interactive experience, highlighting amendments and rationale for change.

Table 7.14: Amendments: Framework for the Construction of the Playful Interactive Experience

2nd Stage Framework	Final Framework	Rationale for Change
Accessibility (To the site)	**Accessibility (To the site)**	
Walkable	Walkable	
Safe	Safe	
Connected	Connected	
Convenient	Convenient	
Proximity	Proximity	
Design Communication	**Communication**	Further refined in order to be simplistic and user friendly
Familiarity	Familiarity	
Attractive	Attractive	
Engaging	Engaging	
Random Encounter		A 'random encounter' appeared to be unsuccessful; conversely it did not affect the overall experiential outcome, concluding that this parameter should be removed.
Incentive	Incentive	
Play Permission	**Play Permission**	
Utilisation of senses	Utilise senses	Further refined in order to be simplistic and user friendly
Exploration of Creativity	Allow Creativity	The designer should promote the act of creativity upon user choice
Active	Active	
Fun	Fun	
Discovery	Enable Discovery	The designer should facilitate the act of discovery
User Interaction (Refer to framework for Interaction Analysis)	**Interaction (Refer to framework for Interaction Analysis)**	Further refined in order to be simplistic and user friendly
Individual	Individual	
Collaborative	Collaborative	
Promote Dialogue	Promote Dialogue	
Encourage Visual Communication	Encourage Visual Communication	
User Reaction	**Reaction**	Further refined in order to be simplistic and user friendly
Captivation	Captivation	
Sensation	Sensation	
Stimulation	Stimulation	
Fantasy	Fantasy	
Transfer	Transfer	

Design Suitability	**Suitability**	Further refined in order to be simplistic and user friendly
Diverse	Diverse	
User Choice	User Choice	
Free Movement	Free Movement	
Safety		Safety is removed and transferred to a category of its own, for the overall importance of public safety
Disability Awareness	Disability Awareness	
	Neutral Context	A neutral context promotes suitability to all of society despite age and background
Level of Permanence	**Lifespan**	Further refined in order to be simplistic and user friendly
Ephemeral	Ephemeral	
Mobile	Mobile	
Modular	Modular	
Fast &Direct Assembly	Direct Assembly	A fast assembly appeared to be unsuccessful; conversely it did not affect the overall experiential outcome, concluding that this parameter should be removed.
	Safety	Events were concerned with local council legislations, spatial analysis of the existing environment and safety in materials and construction event prompting the addition of a new section.
	Conform to local legislation	
	Spatial Analysis	
	Clear design elements	
	Sustainability	Attention was drawn to the sustainability of events prompting the addition of a new section.
	Environmental consideration	
	Social Awareness	
	Economic Impacts	
	Lifecycle analysis	

Following the analysis of results, two versions for constructing the playful interactive experience are made available: first, the short version (figure 7.16) second, the explanatory (figure 7.17-21) for detailed understanding of terms. Within the short version the circular formation is retained permitting users to comprehend that each section works coherently towards the same central goal of the playful interactive experience. The functioning together of each element should result in a safe and successful experience of play permission, becoming stimuli for increased social and spatial interactions within the public realm.

Figure 7.16: Framework for Constructing the Playful Interactive Experience (Short Version)

Constructing the Playful Interactive Experience

A Framework for:
Increased Sociability, Personal Creativity and Experience in Public Space

Users should be invited to interact through 'play permission' which encompasses a less serious and more imaginative purpose. Allowing the public to engage leads to a deeper engagement of interactivity with themselves, the object, others and spatial setting.

Utilise Senses: To immerse the user with an implemented design for greater enticement to interact and thus experience, such as materiality, light and sound.

Allow Creativity: The invitation to explore personal creativity for experience output.

Active: A physical engagement which promotes levels of interaction with the artefact and onward transfer.

Fun: The promotion of amusement, through the utilisation of humour, colour and entertaining solutions in order to actively encourage enjoyment and pleasure.

Enable Discovery: Finding out the consequences of actions in terms of aesthetics, use and further spatial offerings.

From implementation, materials, construction and design removal, public safety should be at the forefront of any design.

Conform to local legislation: To adhere to local rules and regulations regarding safety and implementation of public space projects

Spatial Analysis: To perform a spatial analysis of risk assessment to ensure a safe event.

Clear Design Elements: Clear design intentions and safety in materials and construction, passageways should not be blocked and users allowed free movement
.

Figure 7.17: Framework for Constructing the Playful Interactive Experience (Long Version) part a.

The communication of any design is key to successes and failures. If a design is not comprehendible and inviting, users will fail to interact. It is vital that a welcoming and attractive atmosphere is created to encourage incentive, active participation, and onward transfer.

Familiarity: The closer and more familiar we are with something, the more relaxed we become, thus allowing the user to engage quickly.

Attractive: The playful experience must be attractive in terms of its final aesthetic such bold colour and materiality, aiming to heighten the overall attractiveness of the surrounding area.

Engaging: To occupy and attract in terms of someone's interest and attention through the whimsical notions of play.

Incentive: Providing a stimulus which motivates and encourages the onward process of interacting with the playful artefact.

A public space which is not accessible in the first instance compromises experience output. A space which can be reached and entered easily has the potential to encompass an easily approachable, obtainable and appreciated design experience.

Walkable: A site should be suitable for walking in terms of proximity to the wider city and allow users to safely walk around and to the spatial experience.

Safe: Users are not exposed to any danger and there are no attributes which are likely to cause harm.

Convenient: A setting at the heart of the city, allowing the spatial experience to fit in with users daily plans and activities.

Proximity: Nearness in relation to major city elements, taking into consideration the spatial setting and time it takes to reach the area.

Connected: The ability to create a new city link, by providing an innovative method of access and communication to bring the community together.

Figure 7.18: Framework for Constructing the Playful Interactive Experience (Long Version) part b.

The level of permanence required is a temporary and transient nature. Once a design has been implemented into the public realm for a significant amount of time its quality of interaction will decline.

Ephemeral: An ephemeral experience is one of surprise and discovery in comparison with a public art monument which may be forgotten over time.

Mobile: An artefact which has the ability to be moved especially one that can be transported easily, allows more of the public to interact with the 'playful experience' at various locations within the same or other cities.

Modular: Design flexibility allows for further experiences with a similar nature in varying sites.

Direct Assembly: A direct assembly allows the public to have as little contact with a design as possible before viewing its full potential.

The appropriate design must consider the public setting as not to discriminate or offend within any situation.

Diverse: Consider diversity within communities to be suitable for all, crossing multiple backgrounds, ages, social status and genders.

User Choice: Users are to be given permission to interact but in no circumstances should they be forced.

Free Movement: Any design should allow free movement and never block or disturb a transitional path.

Disability Awareness: Disability awareness should be applied in any public design, supporting former parameters passageways should not be blocked and safety rules adhered to.

Neutral Context: To be comprehendible to all and to avoid offense.

Figure 7.19: Framework for Constructing the Playful Interactive Experience (Long Version) part c.

Consideration to environmental, social and economic impacts of an implemented design, in relation to sustainable development.

Environmental Consideration: Consideration to the existing environment and impacts of an implemented design.

Social Awareness: Awareness of social impacts for the general public and surrounding community.

Economic Impacts: Impact of economic transfer to surrounding businesses.

Lifecycle analysis: Analysis of design elements from idea to end of life.

Users should react instinctively in order to encompass the feeling of fun for the promotion of heightened sociability and spatial experience. Aspiring to captivate the audience through design output in order to promote sensation, stimulation, fantasy and pleasure.

Captivation: To attract and hold the interest of the user.

Sensation: The physical attributes of a project, linked to pleasure. For example, touching the materiality of a project.

Stimulation: The artefact itself should act as the stimulant to encourage active participation with the works and others.

Fantasy: The unexpected play experiences in the public realm, taking users away from the normal spatial reality.

Transfer: The stage of incentive through to actual interaction with the possibility to continue to post interaction stages. (See framework for interaction analysis.)

Figure 7.20: Framework for Constructing the Playful Interactive Experience (Long Version) part d.

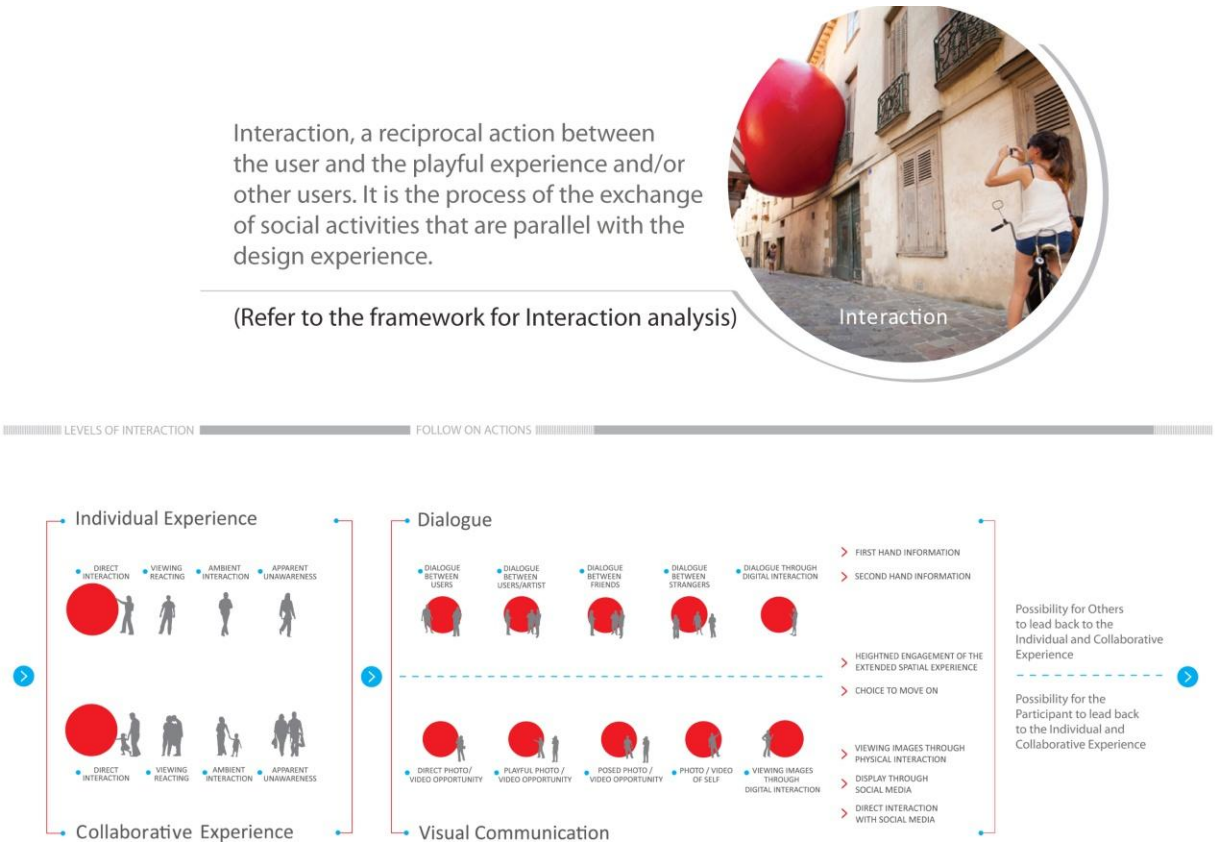


Figure 7.21: Framework for Constructing the Playful Interactive Experience (Long Version) part e.

7.3.4.2 Framework for Interaction Analysis

'Interaction' within the framework for the construction of the playful interactive experience prompts users to: 'Refer to framework for Interaction Analysis'. The two models aim to be used simultaneously for the production and subsequent evaluation of the playful experience. Furthermore the framework provides designers with a pre-defined model of expected levels of user interaction: Individual, Collaborative, Dialogue Transfer and Engagement in Visual Communication.

In relation to d*ialogue transfer* post design focus group participants pointed out that they underestimated the impact of the events, not realising that so many people would ask questions. Public intrigue began during set up which allowed interaction between the general public and the artists/designers. Many of the public whom asked questions encompassed a feeling of satisfaction of being able to understand the events. Encouraging interaction between artists/designer and users is also coordinated in the earlier interview, (Appendix 4.5) with Kurt Pershke, artist of the red ball project, who noted his interactions with the users of the ball and how experience was further increased by their understanding or involvement in the project.

Observations of dialogue between friends and strangers revealed that these occurred at two stages of the design experience, firstly between users of the inflatable and secondly within the wider spatial experience, as such this will be referred to in framework amendments. 31.7% of questionnaire participants heard about the events on social media this is a trait which should be acknowledged as a positive consequence of information transfer and be built into the framework for interaction analysis.

Photography as a tool for creativity was highlighted as a successful method of *Visual Communication* and interaction with and around the events (Figure 7.22). Surrounding the discussion of photography focus group participants highlighted the possibility to photograph first and then directly interact with the playful experience. The framework for interaction analysis in its current form has promoted the idea of physical interaction leading to follow on interactions. Findings have revealed that this sequence is not always the case, the experience of a viewing and reacting in some instances led to follow on methods of interaction such as photography of dialogue which subsequently led direct physical encounters with the experience.

Theopitsi Stylianou-Lambert suggested that whatever makes us excited or we wish to share with others prompts the act of photography, it is a method of note taking allowing us

not to think so deeply at the present moment (Appendix 6.8). In relation to follow on actions, the act of photography has the possibility of a short life. After a while this photo will be transferred to a computer, the same applies to social media, it might have short term impact but will eventually be surpassed by a new experience. Theopitsi also suggested that the category of second hand photography be split further, to posing and actions.

Figure 7.22: Photographic Interactions.
(Personal Images and Image courtesy of Charalambos Sergiou)

Further Follow on Actions were also recognised during the process. Design implementation within the university campus revealed that users explored new areas of excitement but did not give much insight into exploration of alternate campus areas. Conversely, observations during framework evaluations revealed that structures acted as a medium for further spatial exploration. Many participants discovered existing architecture and surrounding environment of the public offering which had previously gone unnoticed or faded into the background over time. The areas were revived by the temporary narrative which occupied their spaces.

Figure 7.23: Additional Interactions and Follow on Actions. *(Personal Images)*

The inflatables resulted in an effortless and surprising design installation allowing for public engagement with the playful designs and the surrounding public offerings (Figure 7.23/24). Once encountering the new spatial experience which contrasted the permanence of its surroundings a temporary atmosphere of playful participation was established. The playful atmosphere and regeneration revealed two further follow on actions: Users were

able to choose to move on and leave the spatial setting or engage in the extended spatial experience.

Figure 7.24: Additional Interactions and Follow on Actions. *(Personal Images)*

During the stage of research for design, interactions were evaluated through literature findings. The investigation aimed to build upon these stages through the analysis of results. The second stage framework for interaction analysis documents various levels of visual and dialogue communication as well as the possibilities for follow of actions. Findings revealed:

- The parameter of photographic interaction should accommodate varying levels of photographic interactions.
- 31.7% of users came across the events through social media, showing that interactions transferred through digital interactions have the possibility to bring others full circle to interact with the design experience.
- To photograph first and then directly interact, allowing users to view and react creatively not merely through observations.
- The amendment of dialogue between strangers, firstly between users of the inflatable and secondly between users within the wider spatial experience.
- Two further follow on actions were observed: The choice to move on and leave the spatial setting and an increased engagement of the extended spatial experience.

An explanation of amendments can be seen in table 7.15, as with the framework for creation the framework for interaction analysis was also re-designed (Figure 7.25) to encompass a user friendly output. It is aimed to be utilised parallel to the framework for creation allowing the designer to understand, predict and analyse the interactive outcomes of a given design. It may be used as a tool of understanding or utilised further as a method of spatial and behavioural evaluation.

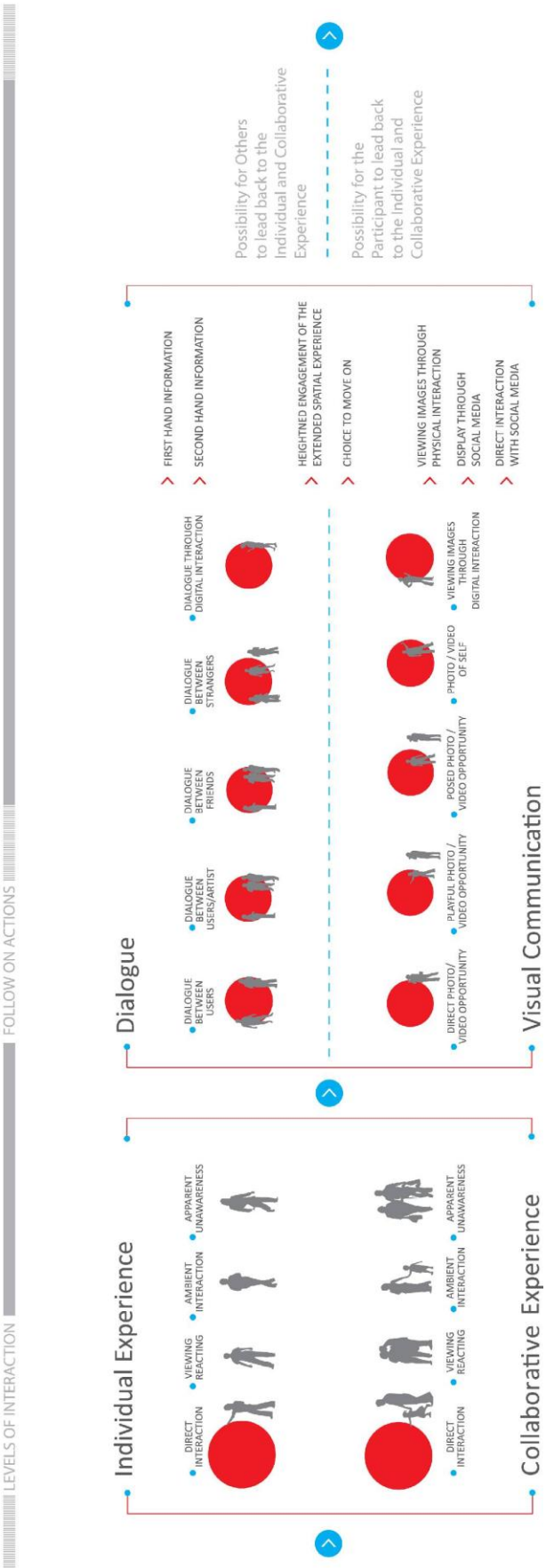


Figure 7.25: A framework for Interaction Analysis with a Playful Interactive Experience

Table 7.15: Amendments: Framework for Interaction Analysis

2nd Stage Framework	Final Framework	Rationale for Change
Level of User Interaction (Individual or Collaborative Experience)	**Level of User Interaction (Individual or Collaborative Experience)**	
Direct Interaction	Direct Interaction	
Viewing and Reacting	Viewing and Reacting	
Ambient Interaction	Ambient Interaction	
Apparent Unawareness	Apparent Unawareness	
Follow on Actions (Dialogue)	**Follow on Actions (Dialogue)**	
Dialogue between Friends	Dialogue between Friends	
Dialogue between Strangers	Dialogue between Strangers	
	Dialogue between Users	Observations of dialogue between friends and strangers revealed that these occurred at two stages of the design experience, firstly between users of the inflatable and secondly within the wider spatial experience.
	Dialogue between Users/Artist/Designer	Public intrigue began during set up which allowed interaction between the general public and the artists/designers.
First Hand Information	First Hand Information	
Second Hand Information	Second Hand Information	
Digital and Social Media Interaction	Digital and Social Media Interaction	
Follow on Actions (Visual Communication)	**Follow on Actions (Visual Communication)**	
Direct Photo Opportunity	Direct Photo/Video Opportunity	Video has been added as questionnaire respondents stated that they also filmed the events as well as photographing.
Secondary Photo Opportunity	Secondary Photo/Video Opportunity	Video has been added as questionnaire respondents stated that they also filmed the events as well as photographing.
	Playful Photo/Video Opportunity	The parameter of photographic interaction should accommodate varying levels of photographic interactions.
	Posed Photo/Video Opportunity	The parameter of photographic interaction should accommodate varying levels of photographic interactions.
	Photo/Video of Self (Selfie)	The parameter of photographic interaction should accommodate varying levels of photographic interactions.
Digital and Social Media Interaction	Viewing Images through Digital Interaction	Users encompass the possibility to view images and videos through digital methods. E.g. through a smart phone.
	Viewing Images through Physical Interaction	Users encompass the possibility to print images post experience.
	Display through Social Media	31.7% of users came across the events through social media displaying that during the events users had already uploaded images/videos and information.

	Direct Interaction through social Media	31.7% of users came across the events through social media displaying that during the events users had already uploaded images/videos and information.
	Further Follow on Actions	
	Possibility for others to lead back to the Individual and Collaborative Experience	31.7% of users came across the events through social media, showing that interactions transferred through digital interactions have the possibility to bring others full circle to interact with the design experience.
	Possibility for the Participant to lead back to the Individual and Collaborative Experience	Surrounding the discussion of photography focus group participants highlighted the possibility to photograph first and then directly interact with the playful experience.
	Heightened Engagement of the Extended Spatial Experience	Many participants discovered existing architecture and surrounding environment of the public offering.
	Choice to Move on	Conversely others chose to move on.

7.3.5 Summary of Research Findings

The framework for the creation of playful interactive experiences has built upon current research, providing a model for onward transfer. It has been made apparent that play permission as an offering to the public is a valid enticement to re-engage with their free and open public areas. Users believed they had encompassed the feeling of play despite low recordings of the physical act, showing that a playful experience can be encompassed intellectually as well as physically, causing a positive effect on someone's day and prompting them to explore other areas of a city. Through findings of a change in impact, perception and spatial usage the playful interactive experience as a catalyst for social good has allowed users to experience a sense of place rather than a feeling of emptiness which was so clearly displayed pre design implementation.

Thus far this investigation strived to source a definition for the playful interactive experience within its aims and objectives. A range of suggestions point towards elements of a playful experience within public space, nevertheless it is important to the onward transfer of this research that the playful interactive experience is fully defined. This research has concluded the playful interactive experience as being:

'an **event** where one can be **spontaneously** involved in a **temporary narrative** of **play permission** which is **non habitual** in order to **increase** an **experience** of **place**.'

Further explained, the playful interactive experience allows the individual or group to be presented with an out of the ordinary occurrence of play within their usual spatial setting. This offering of public engagement provides a seemingly fun and humorous event which takes place on the 'stage' for public life. Unknown to the public play permission aims for a deeper meaning of engagement for social good, thus promoting sociability and exploration of the wider spatial experience. The spontaneous short term encounter within an intense time frame aims for maximum impact as to make a lasting impression. In line with the ever-changing nature of society the playful interactive experience has the potential to be moulded into countless designs re-occurring within cities promoting a city of play, exploration and discovery.

Issues raised within this investigation were problems with recent approaches to public space re-generation. Current research (Carmona, 2010a, 2010b, 2014a) promoted that merging processes of practice, implementation and evaluation of design moves us away

from the traditional essence of public space policy merely lying in the realms of social science. Gaventa (2006) and Wunderlich (2014) claim that since the turn of the century it is a highly exciting time for new public spaces in a temporary and transient fashion. Furthermore Madanipour (2003) and Whybrows (2010) promotion for the city of 'performance' provides a renewed thinking of our public spaces in line with our ever changing communities (Amin, 2006). In relation to these claims the playful interactive experience aims to be considered as an underlying activity of a short term placement within the wider picture of placemaking, prompting designers, planners and urbanists to reconsider the *'lifespan'* and level of interaction within public projects.

Playfulness is a trait witnessed most often in children; academic research in relation to adulthood is much more limited. Where current publications exist they are most often in relation to adult learning and productivity (Guitard et al, 2005; Van Leeuwen and Westwood 2008; Kanhadilok and Watts, 2014; Proyer, 2012, 2013, 2016). Providing an overview on the benefits of play at all ages allowed *'play permission'* to be at the forefront of framework suggestions, with the intentions of promoting the *'suitability'* of play for all of society through a back to basics form of physical interaction. The playful experience does not demand *'interaction'*; it simply invites playful engagement at various levels, as displayed in the framework for interaction analysis. A general view of interactivity is something that promoted exchange, especially with technology, the playful interactive experience aims to utilise low technological interactions to affect not only the engagement between the user and the design but influencing a productive change in participants' mood. Furthermore the familiar *'communication'* of a playful event in a surprising manner promotes *'reactions'* of pleasure and increased emotion for the passer by. The positive results yielded from the evaluation of playful design artefacts confirm that this method is a viable solution for short term place creation within areas of *'accessibility'* and good proximity to the wider city. In relation to any public space design, *'safety'* and *'sustainability'* are always at the forefront of planning, thus promoting all round positive events. Finally the merging of these principles in a coherent fashion aim to produce catalysts of a sensory experience for the occurrence of increased sociability, allowing personal creativity and experience in public space.

7.4 Conclusion

Design artefacts were evaluated through varied methodologies employed to triangulate results for research evaluation and conclusions. The employment of onsite questionnaires and focus groups allowed for public feedback providing opinions and statistical data. Expert interviews offered professional opinions, while observational studies presented mapping techniques for visual comparison pre-design and during the event, in order to assess changes in spatial usage. A count up of observed users and their actions gave the investigation statistical data on usage for additional comparison. Data findings allowed for an evaluation of framework parameters as well assessing the overall change in perceptions, impacts, usage and levels of interaction.

Chapter 7, General Discussions has examined methodologies employed during this body of research. It has discussed difficulties and limitations of the research and chosen methodologies as well as issues raised within the investigation. Furthermore this chapter has related the findings of the research through a triangulation of results and the onward transfer to design frameworks.

This study was designed to explore the effects and limitations of a playful interactive experience within public space in order to produce a methodology for onward transfer. Once a set of best practices was established the investigation aimed to explore how the playful interactive experience could increase social and spatial interactions within public space, whilst additionally encouraging spontaneity as a catalyst for interaction, utilising otherwise lost public spaces allowing freedom for the creativity of users and enhancing a sense of place for the user.

With the public at the centre of the investigation, ethical issues were present at each stages of the research. Posters informed the public at all times of the research and its aims, objectives and intentions. A consideration of the research was the limitation that the PhD study was privately funded; there was no sponsor or organisation that provided direct funding for the research. Fortunately the author built strong relationships with Frederick University, Nicosia, Cyprus and Urban Gorillas, NGO whom both provided the study with necessary assistance, support and input on data collection.

It is important to state that despite largely positive results gained from the investigation some difficulties were experienced through the study. As various methodologies were employed as an evolutionary nature the time frame of devising,

conducting, transcribing and analysing results took more time than anticipated. However the author acknowledges that it was the decision set at the primary stages of the study.

A number of methodologies had the potential to be subjective, for example: participants who enjoyed their experience may have answered the questionnaire, or visual observations may not clearly outline a person's intentions. The researcher clearly notes that these limitations with outcomes potentially creating a biased or subjective outcome, as such utilising focus groups, interviews along with questionnaire results and visual mapping provided more solid conclusions. The bias had the potential to be reduced significantly by employing a range of methods and triangulating findings.

Moreover, current research in the field of playful interactivity displayed projects of an invited nature or gallery setting where the users of the spaces, or playful designs were aware that they were part of an experiment. This was a trait the researcher aimed to avoid, as to judge whether the implementation of a surprise would create an atmosphere of excitement in order to further increase the users feeling of place. Furthermore, the author was unable to source a study which encompassed similar aims and methods of investigation combined within the crossing of the three major subject areas. Therefore once the initial framework was created and a design artefact produced methods of public opinion, user behaviour and professional feedback appeared to be the most effective ways of utilising methods that would evaluate both the said artefacts and the frameworks.

The involvement of others, either student, professional or general member of the public provided the study with a range of reactions and invaluable opinions to inform the conclusions of this research. Chapter 8 'Conclusions and Recommendations' will continue to outline overall conclusions, unique contributions and future recommendations of the study.

Chapter 8

Conclusions and Recommendations

8.1 Conclusions

The purpose of this study was to discover if playful interactive experiences could increase social and spatial interactions within public space in order to: encourage spontaneity as a catalyst for interaction, utilise otherwise lost spaces, allow freedom for the creativity of users and enhance a sense of place.

The investigation aimed to produce two models: first, a framework for the creation of playful interactive experiences and second, a framework for interaction analysis. This has been achieved by utilising a multi method approach to design research. The multi method technique included:

- A research for design process to test current suggestions
- Onsite questionnaires and observational counting to provide statistical results
- Focus groups, expert interviews, and observational behavioural mapping for explanatory findings and further developed understanding.

Moreover the triangulation of these qualitative and quantitative approaches evaluated found data, resulting in refined frameworks for onward transfer to fellow designers and academics. The central concept of the playful experience within the public realm has been defined, resulting in the outcome of a genre which did not entirely fit previous concepts within art and design theory. Moreover, this research aimed to place the playful interactive experience into academic context as a potential subcategory of the placemaking technique.

The introduction of this investigation questioned: if the experience of the visual arts within public space allows for increased creativity and interaction? A general overview of the research project indicates that play permission within public space permits positive interactions during the lifespan of an implemented project. It has yet to be determined if the outcomes of the playful experience are long lasting, promoting a further post PhD study.

Throughout history public space has provided grounds for public engagement. Research highlighted the need to reconnect the public with their free and open spaces, within the context of contemporary lives and constantly evolving future. Designers have been labelled as creators of social construction within public space. Research findings point out that well defined spaces allow for experience and definition, if completed successfully designers can challenge social boundaries to create spaces suitable for all and void of

division. The onward transfer of research findings will enable fellow designers to produce temporary playful experiences for public good.

It has been suggested that temporary designs with an interventional and performance nature is a viable placemaking technique for the promotion of underutilised public spaces. All urban areas should be considered as links to the wider city context, we no longer wish to see segregation and boundaries which separate the public from each other or their free and open public areas. This research focused on underutilised and transitional areas of the city in order to produce new city links in a playful and engaging context. The playful interactive experience has the potential to regenerate multiple underutilised public spaces, if placed within several areas within city it has the prospective to promote a city of adventure and exploration. Research to date allowed an understanding into play within design, highlighting play as a concept which has the ability encourage engagement and user experience. Play permission implemented into public space has the potential to break social barriers, allowing the opportunity to further engage in multiple ways. Additionally adult play has the potential to promote serious outcomes of productivity, creativity, pleasure, and communication. A playful offering within underutilised public spaces must be applicable to all, promoting freedom, enjoyment and an overall fun experience.

Approaching the research from an interdisciplinary perspective where design and artistic installation, merge to meet with the social sciences allowed the investigation to comprehend how to regain a sense of ‘place’ within public areas in order to give the community back their forgotten and lost spaces. Research surrounding playful interactions indicated that activities which cause pleasure, increase users’ interactions. The artists and designers role in placemaking was highlighted as a creative method of generating better public environments. Allowing public spaces to set a stage for public life we allow freedom for all. In many cases it is essential to create a stimulus for the public to actively engage with their surroundings, thus causing social interactions. Providing public participation within a seemingly humorous game or story in an unexpected setting yields more important social and spatial outcomes that the public themselves may be aware.

Upon recognition of the ideals of playful interactive experience within the context of public space and placemaking the investigation aimed to generate frameworks for creation and evaluation. Designing for the playful outcome has been separated from other genres of art, design and game design. Designing for the playful interactive ‘experience’ is the creation of emotion towards an event, not a production of a game with ‘rules’ or visual aesthetic. Furthermore it is not a political or activist statement, technological advancement or an event

which demands commitment of the viewer. Consequently, frameworks aimed to produce a method for experience creation allowing the general public to spontaneously, be involved in or observe an out of the ordinary, temporary experience. More specifically, frameworks aim to enhance spatial usage and sociability of surrounding communities.

Many design projects today require quick turnaround, fellow designers and academics can benefit from the use of tool kits and frameworks for an understanding of research advances. Often designers lack time and budget to complete a project sufficiently, in some cases this results in superficial design outcomes. Easy to follow frameworks provide the design community with models offering insight into the production and expected levels of interaction with a playful interactive experience as well as subsequent follow on actions.

The framework for creation points at the designed experience, not the aesthetic outcome. Principles provide areas directed towards the playful 'experience' within the urban realm. Throughout this investigation experience has been viewed as a journey of exploration which produces a sensation promoting onward transfer from the playful act to increased sociability and spatial connections. Frameworks would not hold a great deal of weight if outcomes were purely visual. Furthermore the model permits designers aesthetic freedom to produce artefacts which fit their own style.

Frameworks were employed in two ways: first as a research for design methodology, through a co-production for onward testing, and second as a tool for research evaluation, benchmarking principles against large scale designs. In order to evaluate and amend frameworks the triangulation of findings strengthened the study, thus allowing comparisons between different fields of academic research in order to coordinate results for further understanding. Overall research findings highlighted that during the short term placement of implemented designs encouraging results of increased social, spatial and creative acts were recorded. The newly transformed areas positively altered public perceptions of the spaces and how their public offerings could be designed for the better. This investigation argues that playfulness is not merely 'child's play' neither is it a whimsical means to pass time, the occurrence of play permission can in fact create dialogue and introduce the notion of social change.

Some may argue that within our contemporary society a high tech approach to playful interactivity is the way forward, suggesting digital immersion and new media as the answer for new public spaces. Technological discoveries have changed the way we view our interactions and physical environment. Conversely this research discovered that low or non technological examples of playful interactivity have the possibility to become viable methods

for implementation within public space. Projects with no or low level technological approaches provided the research with working examples fitting aims and objectives. The author does not wish to discount technical solutions within our contemporary world, yet this investigation has aimed to remove users from increased interactions with virtual space bringing them back to a physical state of play. Furthermore this investigation has highlighted that technology may be better placed as an underlying requirement for the playful interactive experience: first, the user may not be aware of technological approaches to design production, i.e. the use of CAD[19] or material production. Second, the user has the possibility to transfer the experience of playful interactions with the use of technology[20]. The study concluded that transfer to social media widens interactions with the design experience encompassing a possibility to bring people full circle, first to digitally view the playful design and second, prompt visits of others to the physical spatial offering.

Results revealed a surge in the number of users within reformed spaces, unexpectedly only one third of users actually interacted directly with the playful designs. Users were not primarily concerned with the design artefacts as hypothesised strengthening the idea that the objects act as catalysts or stimuli to bring people together and to prompt exploration of the wider spatial offerings. The author recognised that the production of physical elements have the potential to diminish social boundaries, providing the public with stimuli to the interaction process. The attraction of a space can in fact be the users within. Where there is no one, people are inclined to become disinterested, when you place a catalyst people with encompass attraction, thus prompting more to enter, a trait witnessed through the playful events. Providing the public with the playful interactive experience as a catalyst for social interaction provided a method for sociability, once users were within the newly reformed sites, the attraction became about the people and not about the designs. Furthermore this catalyst could be defined as a sensory experience through play.

Approximately two thirds of the public believed that they had 'played' during their time. It may be concluded that playful designs allow an increase in play and creativity through methods of viewing and reacting. Users did not necessarily feel that they needed to directly interact in a physical manner to be creative and encompass the act of play. The study highlighted the notion of intellectual play, it can be concluded that this was also present during the implementation of playful interactive experiences within this investigation. Research has suggested it is highly probable that adults do feel an intimidation to play children's games, resulting in their choice of games becoming socially acceptable.

[19] Computer aided design
[20] Transfer to social media or the use of technology to inform someone else about an event.

One possible solution to play in adulthood is the experience of the playful act within our cities reoccurring frequently. Adult games are usually controlled by rules, be it a sport or object game. Implementations of playful interactive experiences aim to counteract the stigma of play in adulthood providing: socially accepted methods, a renewed thinking to the approach of play, and varied levels of physical and intellectual play.

Limitations of the research in relation to methodologies have been discussed during chapter 7 (General Discussions). In addition ethics of data collection due to the personal privacy of users provided limitations on collecting data discreetly as put forward by place-maker theorists. Moreover due to budget and time frames there were constraints on the research in terms of further evaluation. The research has the potential to be taken forward into many other examples of public space and artefact designs to be tested and re-evaluated, these potentials are outlined within future recommendations of the study.

The playful interactive experience has been benchmarked against current genres of art and design concluding that it does not entirely fit one genre. On the surface the playful interactive experience is seemingly fun and humorous, yet it is a functional design for the wider theme of increased interactions on spatial and social levels. Defined as 'an event where one can be spontaneously involved in a temporary narrative of play permission which is non habitual in order to increase an experience of place,' it can be characterised as a method of increased user interaction on various levels.

The playful interactive experience has the potential to be placed a subsection of activity or fun within the placemaking technique, as a spontaneous encounter on a short term and intense time frame aiming for maximum impact as to make a lasting impression. Play permission offers a deeper engagement for social good, thus promoting sociability and exploration of the wider spatial experience. In line with an ever-changing society, playful interactive experiences have the potential to be moulded into numerous designs promoting the city of play and discovery. Even as a smaller category within the much larger concept of placemaking the positive results achieved reveal that the playful interactive experience has the potential to be a valuable tool for social good.

8.2 Original Contributions

This study has made investigations into the *'playful interactive experience'* within public space as a method of participatory design, where all of society is free and able to be involved. A fundamental concern was the placement of the subject matter within current research, questioning where it fits within present genres of art and design or if indeed it fully fitted within any field at all. It became apparent through the review of literature that not one genre entirely fitted the aims of this investigation. Viewing the playful interactive experience as an interdisciplinary method of place creation, the research strived to produce meaning and definition within the context of this examination. Concluded during general discussions, the 'playful interactive experience' was defined by the author as:

> *'an **event** where one can be **spontaneously involved** in a **temporary narrative** of **play permission** which is **non habitual** in order to **increase an experience** of **place**.'*

Moreover, frameworks for the creation and evaluation of playful interactive experiences have been produced, tested and refined. The models provide tools which can be employed by fellow designers in order to achieve the aim of creating a playful experience, be it as: an academic instrument in how experience and emotions are equally important design tools as the final aesthetic outcome, or within the professional setting, adapting principles to multiple project briefs which require or benefit from playful and interactive experience.

Further contributions are the design outcomes produced through the research for design methodology. The two designs demonstrate the essence of the playful interactive experience and have the potential to be modular and reused within other sites to achieve additional and endless playful potentials.

Original contributions work together coherently to provide an overview of the playful interactive experience, this investigation has: defined, produced and documented the playful interactive experience for onward transfer and further evaluation.

8.3 Future Recommendations

The research has left room for varying future recommendations of the study. The first and foremost question of the author is 'does it last'? Do playful interactive experiences within the public realm have the potential to re-occur with the same level of impact? How often would be too much for public to become bored and how little would allow a space to be utilised to its full potential? Furthermore what would happen if the same temporary experience re-occurred during different periods, could the same playful design act as an anchor for other events? Upon first encounter the experience has the potential to be about the design itself, but upon subsequent encounters could it draw the attention to further experiences of the spatial setting, thus enticing the public to explore further? The author also questions, after the removal of a playful experience do users perception of a space truly change? Do they remain heightened or do the playful acts slowly fade and the space turns back again into an underutilised area with no feelings or connections?

The relationship between safety and the implementation of playful designs was highlighted during the study. This finding could open a new line of investigation into the subject of playful experiences for social good and reduction in crime and deviant behaviour within underutilised public areas. Furthermore, increased spatial and social impact may be witnessed with the people living and working within implementation sites, suggesting that when you work somewhere you have a completely different approach to a spatial setting. The study thus far saw all participants as equal, as such a further future recommendation of investigation could be applicable.

During final framework evaluation for interaction analysis further sub categories of occurrence with a playful interactive experience were recognised. Additional detailed evaluations of user interactions are recommended as a focal point for further investigation. Further to these questions, researchers interested in the formation of the playful experience have the potential to lend theories to other forms of spaces, away from the public realm.

A primary objective for the author and her personal ongoing investigations is the transference of this research into a handbook or toolkit for fellow designers and academics. The intention of the handbook is to aid and support designers in the successful creation of playful and interactive experiences. The core spatial setting will be public space as discussed during this research. The guide will include easy to follow, detailed and explanatory frameworks to aid design creation and development without affecting personal design aesthetics. In addition, a set of evaluation and support methods, in the form of charts and

tables, will allow designers to assess the success or failures of any implemented or pre-existing designs. This guide intends to be utilised in both professional and academic setting, from low budget projects through to high end experiences. As an academic instrument it will permit students to enhance their knowledge and conceptual skills in how experience and emotions are equally important design tools as final aesthetic outcomes. Within professional settings users will have the possibility to take the suggestions of the included frameworks and adapt the principles to multiple project briefs which require or benefit from playful and interactive experience. Currently the findings of this research are being explored at the undergraduate level, where a fourth year interior design student of Frederick University will employ the model for a playful city experience entitled the 'λ project.'[21]

8.4 Achievement

Finally, it is important to the research to sum up the achievements of this investigation in relation the aims and objectives. This dissertation, has argued the significance of the 'playful interactive experience,' outlining current research, and comprehensive data collection methods. It has examined artefacts in terms of a social context to draw conclusions to inform the aims and objectives of the investigation. The playful interactive experience has been defined as a method for experience creation thus creating a sub-genre in the realms of play, playful interactivity and placemaking. It is a process of designing for function in both ambiguous and familiar ways which at first glance is seemingly humorous, but essentially encompasses goals of a much more serious nature.

Despite positive outcomes it must be acknowledged that there is still much to learn and investigate on the subject matter. Research outcomes encompass multiple future possibilities as displayed within future recommendations. Playfully designed cities are an ongoing trend, numerous publications and events have taken place during the course of this investigation. Nevertheless the findings of this study provide academic insight into a viable method of temporary placemaking. The main intention of the research was to explore how designers can create positive experiences, promote sociability and encourage the public to connect through the implementation of playful interactive experience. It can be concluded that this research has defined a genre which did not appear to fit between the others currently defined. Seemingly amusing outcomes have the potential to be utilised,

[21] The Lambda Project will promote the city of Lemesos (Limassol) through the playful engagement of the Greek letter λ within accessible areas of the city, inviting the public to interact with the letter and what the city of Lemesos (Limassol) means to them.

implemented and enjoyed by all as an economic, fun and non traditional solution to ‘placemaking.’ Moreover the research has satisfied predictions that play can increase social interactions and produce feelings of ‘place’ within once underutilised areas of the public realm.

Reference List

ABRAMS, R. (2000) Let's all go out and play. *New Statesman,* 129 (4512) November, pp. 36-37.

ADANK, R, and WARRELL, A. (2009). 'Five senses testing' – Assessing and predicting sensory experience of product design. In DESMET, P. JEROEN, V. E, and MARIANNE, K. (Eds.) *Design & emotion moves (*35-58). Newcastle upon Tyne: Cambridge Scholars.

ALLANWOOD, G. and BEARE, P. (2014) *User experience design: creating designs users really love*. London: Bloomsbury Fairchild Books.

ANDERSON, S, P. (2011) *Seductive interaction design: creating playful, fun, and effective user experiences.* Berkeley, California: New Riders.

AMIN, A. (2006) The Good City. *Urban Studies,* 43, (5) May, pp. 1009–1023.

ART ALLIANCE AUSTIN (2012) *Red Swing Project* [WWW] Available from: https://www.artallianceaustin.org/projects/projects-red-swing [Accessed 06/07/12].

ASSOCIATION FOR PUBLIC ART (2018) *What is public art?* [WWW] Available from: www.associationforpublicart.org/what-is-public-art/ [Accessed 01/03/18].

AUGÉ, M. (1995) *Non-Places: Introduction to an Anthropology of Supermodernity.* London: Verso.

BABICH, N. (2014) Play from the perspective of future pedagogues'childhood and adulthood, *Social and Behavioral Sciences* 146 pp. 3 – 8.

BACHELARD, G. (1958) *The poetics of space*, Boston: Beacon Press.

BANERJEE, T. (2001) The future of public space: Beyond invented streets and reinvented places. *Journal of the American Planning Association*, 67(1), 9-24.

BANAJI, S. (2009) Creativity: Exploring the rhetorics and the realities. In: WILLETT, R. Et al. (2009) *Play, Creativity and Digital Cultures*, New York: Routledge, pp. 147 – 164.

BAPTISTE, N. (1995) Adults Need to Play too: Professional Development, Always Growing and Learning. *Early Childhood Educational Journal.* 23. (1). September, pp.33-34.

BARKER, C. (2008) *Cultural Studies: Theory and Practice,* Sage: USA.

BENGTSSON, L, R. (2007) *The construction of Interactivity in Public Space: A study of digital Interactive Installation 'colour by Numbers,'* Presented at NordMedia Conference, pp. 16-19 August 2007, Helsinki, Finland.

BEKKER, T, STURM, J. and EGGEN, B. (2010) Designing playful interactions for social interaction and physical play, *Personal and Ubiquitous Computing* 14 (5), pp 385–396.

BELL, J. (2005) 4th ed, *Doing your research project,* UK: Open University Press.

BERGER, J. (1972) *Ways of seeing,* London: Penguin.

BERNE, E. (1964) *Games People Play,* New York: Ballantine Books.

BILDA, Z. (2011) *Designing for audience engagement.* In Candy, L. and Edmonds, E. (Eds.), *Interacting: Art, research and the Creative Practitioner*. Oxford: Libri Press. 163-181.

BILDA, Z. EDMONDS, E. and CANDY, L. (2008) Designing for creative engagement. Design *Studies*, 29 (6), pp. 525-540.

BORDEN, I. (2006) Thick Edge: Architectural Boundaries and Spatial Flows. In: TAYLOR, M, and PRESTON, J. eds. (2006) Intimus: Interior Design theory reader, West Sussex: John Wiely & Sons ltd. Pp.49 – 55.

BORDEN, I. (2014) The role of risk in Urban Design, in Carmona, M. (2014). *Explorations in Urban Design: An Urban Design Research Primer.* Surrey, UK: Routledge. pp.15-24.

BOURRIAUD, N. (2002) *Relational aesthetics.* Dijon: Presses du réel.

BRAMSTON, D. (2009a) *Idea Searching*, Lausanne: AVA Academia.

BRAMSTON, D. (2009b) *Visual Conversations,* Lausanne: AVA Academia.

BROWN, K. (2014) *Interactive contemporary art: participation in practice,* London: I.B. Tauris.

BROWN, S. (2008) *Play is more than just fun. Serious Play.* [Online video] Available from: http://www.ted.com/talks/stuart_brown_says_play_is_more_than_fun_it_s_vital.html [Accessed 20/02/10].

BROWN, S. (2010) *Play: How it shapes the brain, opens imagination and Invigorates the soul,* Penguin: New York.

BUCSESCU, D and ENG, M. (2009) *Looking beyond the structure: Critical thinking for designers and architects.* Fairchild Books: USA.

BYRNE, B. (2010) A New Kind of Theatre: Play in Public Space, *Aesthetic Magazine,* 1st August 2010. pp. 56-57.

CAILLOIS, R. (1961) *Man, play and games,* New York: Free Press.

CANDY, L, and EDMONDS. E. (2010) Relating Theory, Practice and Evaluation in Practitioner Research, *Leonardo*, 43, (5), October. pp. 470-476 (Article). Published by MIT Press.

CANDY, L. and EDMONDS, E. A. eds. (2011) *Interacting: Art, research and the Creative Practitioner.* Oxford: Libri Press.

CANTER, D. (1977) *The Psychology of Place,* London: Architectural Press.

CARMONA, M, and TIESDELL, S. (2007) *Urban design reader*. Oxford: Architectural Press.

CARMONA, M. (2010a) Contemporary Public Space: Critique and Classification, Part One: Critique. *Journal of Urban Design,* 15 (1) Feb, pp. 123–148.

CARMONA, M. (2010b) Contemporary Public Space, Part Two: Classification, *Journal of Urban Design.* 15 (2) May, pp. 157–173.

CARMONA, M. (2014a) Explorations in Urban Design: *An Urban Design Research Primer*. Surrey, UK: Routledge.

CARMONA, M. (2014b) The Place-shaping Continuum: A Theory of Urban Design Process, *Journal of Urban Design,* 19 (1) pp. 2–36.

CARMONA, M. (2016) Sustainable urban place-shaping, *Journal of Urban Design,* 21 (1) pp. 31-35.

CARR, S, FRANCIS, M, RIVLIN, L, G and STONE, A, M. (1993) *Public Space: Environment and Behavior,* UK: Cambridge University Press.

CARRAZ, R and ANTONIOU, V. (2015) *Good, Bad and Ugly: Public Benches in the Old Walled City of Nicosia.* Cyprus Dossier, 8, pp. 46-48.

CASTLE, H. (2005) Editorial, *Architectural Design,* 75. (1), pp. 4.

CHANG, C and REEVES A, J. (2012) *Before I die* [WWW] Available from: beforeidie.city/about/ [Accessed 06/07/12].

CHARITY, R, ed. (2005) *Re Views: Artists and Public Space,* USA: Black Dog Publishing.

CHENECEY, S, P. (2005) Grow up: it's time to play, *Young Consumers* 6, (2), pp.40 – 43.

CHRISTUP, H. (2008) On Sense and Sensibility in performative processes. In: SUNDBO, J. and DARMER, P. eds. (2008) *Creating experiences in the experience economy,* Cheltenham: Edward Elgar Publishing, Incorporated, pp. 203-231.

COHEN, D. (2002) *The development of Play*, USA: Taylor & Francis.

COHEN, L, MANION, L and MORRISON, K. (2007) *Research Methods in Education,* UK: Routledge.

COHN, J. (2013) *The importance of play* [online video] Available from: http://tedxtalks.ted.com/video/The-importance-of-play-John-Coh [Accessed 09/11/14].

COPPERMAN, H. (2008) *Lego's for grownups. Serious Play* [online video] Available from: http://www.ted.com/talks/hillel_cooperman_legos_for_grownups.html [Accessed 20/02/10].

COPPOCK, P, and FERRI, G. (2013) Serious urban games: from play in the city to play for the city Media and the City: *Urbanism, Technology, and Communication (Geography, Anthropology, Recreation)* pp. 120-134.

COSCO, N, G. MOORE, C, R. and ISLAM, Z, M. (2010) Behaviour Mapping: A Method for Linking Preschool Physical Activity and Outdoor Design. *Journal of Medicine and science in sports and exercise*. 42, (3), March. pp. 513-9.

COSTELLO, B, and EDMONDS, E. (2007) *A Study in Play, Pleasure and Interaction Design*. In the proceedings of: Designing Pleasurable Products and Interfaces conference, DPPI'07, Helsinki, Finland, August 22 - 25, (ACM Press: New York), pp.76-91.

COSTELLO, B. (2011) Many Voices One Project, In CANDY, L. and EDMONDS, E. A. eds. (2011) *Interacting: Art, research and the Creative Practitioner.* Oxford: Libri Press. pp. 182-210.

CRESWELL, J. (1994) *Research Design, Qualitative & Quantitative approaches,* London: Sage.

CRESWELL, T. (2004) *Place: a short introduction,* Oxford: Blackwell publishing.

CROFT, J. (2007) *A Framework for designers* [WWW] Available from: https://alistapart.com/article/frameworksfordesigners [Accessed 13/10/12].

DAILY TOUS LES JOURS. (2010) *Musée des possible,* Montreal [WWW] Available from: http://www.dailytouslesjours.com/project/musee-des-possibles/ [Accessed: 20/06/2012].

DATTNER, R. (1974) *Design for Play,* USA: MIT Press.

DARWIN, C. (1859) *On the origin of species by means of natural selection, or, the preservation of favoured races in the struggle for life.* London, J. Murray.

DEMPSEY, N, and JENKS, M. (2005) *Future Forms and Design for Sustainable Cities,* Oxford: Architectural Press.

DESMET, P, JEROEN, V. E, and KARLSSON, M. eds. (2009*) Design & emotion moves*. Newcastle upon Tyne: Cambridge Scholars.

DRESNER, S. (2006) *The principles of Sustainability,* UK: Earthscan Publications ltd.

DURKHEIM, E. (1997) *The Division of Labour in Society.* Translated by Wilfred D. Halls, USA: Free Press.

EDMONDS, E. (2010) *The Art of Interaction* (keynote paper) Proceedings of Create 10, Edinburgh.

EDMONDS, E. (2011) The Art of Interaction, *Digital Creativity*, 21 (4) pp. 257-264.

ELKIND, D. (2008) *Cognitive and Emotional Development through Play.* [WWW] Available from: http://sharpbrains.com/blog/2008/06/09/cognitive-and-emotional-development-through-play/ [Accessed 17/01/14].

ELLRICHSHAUSEN, V.P. et al (2014) *Sensing Spaces: Architecture Reimagined*, [Catalogue of an exhibition held at the Royal Academy of Arts, 25 January – 6 April 2014]. London: Royal academy of arts.

ENGWICHT, D. (1999) *Street Reclaiming: Creating Livable Streets and Vibrant Communities,* USA: New Society Publishers.

ERIKSON, H. (1963) *Childhood and society,* 2nd ed., New York: W. W. Norton.

FALLMAN, D. (2008) The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration. *Design Issues* 24 (3), pp. 4-18.

FERN, F. (2001) *Advanced Focus Group Research.* London: Sage.

FORLIZZI, J, and FORD, S. (2000) *The Building Blocks of Experience: An Early Framework for Interaction Designers.* In Proceedings of the 3rd Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques (pp. 419–423). New York, NY, USA: ACM.

FORTY, A. (2001) *Give public spaces back to the people* [WWW] Available from: www.independent.co.uk/opinion/commentators/adrian-forty-give-public-spaces-back-to-the-people-684857.html [Accessed 10/12/08].

FRANCIS, M. (2003) *Urban Open Space: Designing for User Needs,* Island Press: USA.

FRANCK, K, A. and STEVENS. Q. eds (2007) *Loose Space, Possibility and Diversity in Urban Life,* London and New York: Routledge.

FREDERICK UNIVERSITY (2012) *Anotonis Mitsingas Faculty Profile.* Available from: http://www.frederick.ac.cy/index.php?option=com_content&view=article&id=385&Itemid=599&lid=266 Accessed: 02/06/2012

FREUD, A. (1965) *Normality and pathology in childhood: assessments of development,* Michigan: International Universities Press.

FRIELING, R. (2008) *The art of participation: 1950 to now*, London: Thames & Hudson.

GADAMER, H. (1992) Truth and Method, New York: Continuum.

GAVENTA, S. (2006) *New public spaces,* London: Mitchell Beazley.

GHEL, J. (1987) *Life between buildings: Using Public Space*. London: Island press.

GEHL, J. (1996) 2nd ed. *Life Between Buildings,* The Danish Architectural Press: Copenhagen.

GEHL,J. (2003) *New City Spaces,* Copenhagen : The Danish Architectural Press.

GEHL, J. (2010) *Cities for People,* Washington, D.C.: Island Press.

GEHL, J, and GEMZOE, L. (2008) *New City Spaces* (3rd Ed). Copenhagen: The Danish Architectural Press.

GEHL INSTITUTE. (2018) Tools for measuring public life [WWW] Available from: https://gehlinstitute.org/public-life-tools/ [Accessed: 05/01/18].

Genius of Design. (2010) Episode 5: Objects of Desire [TV] BBC2. June 4, 2010. 1900 hrs.

GLYNN, M, A. and WEBSTER, J. (1992) Adult Playfulness Scale: An Initial Assessment: *Psychological Reports*. 71, (1), August. pp. 83 – 103.

GORDON, G. (2014) Well Played The Origins and Future of Playfulness, *American Journal of Play,* 6,pp. 234-265.

GRAAFF, R, and MERRY, A. (2015) *Integrating undergraduate students as co-producers within the postgraduate learning process: A reciprocal complement.* Learning and Teaching Conference, 'Student transitions: Pillars of Learning, DeMontfort University Leicester, Friday 11th September 2015.

GRAHAM, B. (1997) *Serious games: art, interaction, technology.* London: Barbican Art Gallery in association with Tyne & Wear Museums.

GRAY, P. (2014) *The Decline of Play and Rise of Mental Disorders* [online video] Available from: http://tedxtalks.ted.com/video/The-Decline-of-Play-and-Rise-of [Accessed 09/11/14].

GRIMALDI, S. (2009) The TA-DA Series – A techniques for generating surprising designs based on opposites and gut reactions. Pp. 165 - 189 in. Desmet, P. Et al, eds (2009) Design & emotion moves, Newcastle upon Tyne: Cambridge Scholars.

GUITARD, P, FERLAND, F, and DUTIL, E. (2005) Toward a better understanding of playfulness in adults. *OTJR (Thorofare, N.J.)* 25(1) pp. 9-22.

HACK, G. (2011) "Urban Flux." In: BANERJEE, T, and LOUKAITOU- SIDERIS, A. (eds.) *Companion to Urban Design*, London: Routledge. Pp. 446 – 462.

HARVEY, D. (1996) *Justice, Nature and the Geography of Difference,* Oxford: Wiley-Blackwell.

HARVEY, D. (2009) *Social justice and the city*. University of Georgia Press: USA.

HARVEY, D. (2003) The right to the city. *International Journal of Urban and Regional Research*, 27. pp. 939–941.

HASSAN, H, ROSLAN, R, and ZAKARIYA, K. (2015) Unveiling interactive street art as narrative and playful elements in the city. *UMRAN2015 : A vision of establishing green built environment*, 28th April.

HAYDEN, D. (1995) *The power of place: urban landscapes as public history*. Cambridge, Mass.; London: MIT Press.

HENRICKS, T,S. (2015) Play as Experience, *American Journal of Play,* 8, (1) pp. 18-49.

HER, J. (2010) *Playing Interactivity in Public Space*, In the proceedings of: Second International conference on advances in Multimedia. pp.22.

HER J, and J, HAMLYN J. (2010a) *Meaningful Engagement: Computer-Based Interactive Media Art in Public Space.* In: Huang F., Wang RC. (eds) Arts and Technology. ArtsIT 2009. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 30. Springer, Berlin, Heidelberg. pp. 17 – 34.

HER J, and J, HAMLYN, J. (2010b) *Challenging Interactivity in Public Space.* In the ISEA 2010 RUHR Conference Proceedings, 20th to 29th August.

HER, J. (2014) An analytical framework for facilitating interactivity between participants and interactive artwork: case studies in MRT stations, *Digital Creativity,* 25 (2), pp. 113-125.

HORNECKER, E. (2005) *Space and Place – Setting the Stage for Social Interaction*. Position paper for ECSCW05 workshop 'Settings for Collaboration: the role of place'.

HORNECKER, E. and BUUR, J. (2006) *Getting a Grip on Tangible Interaction: A Framework on Physical Space and Social Interaction.* Proc. of CHI 2006. Montreal, Canada. ACM Press pp. 437-446.

HUIZINGA, J. (1998) *Homo Ludens: a study of the play-element in culture,* London: Routledge.

HURTWOOD, L, A. (1968) *Planning for Play,* Thames & Hudson Ltd: UK.

JANKOWICZ, A.D. (2005) 4th ed, *Business Research Projects,* UK: Thompson Learning.

JACOBS, J. (1961) *The Death and Life of Great American Cities,* Random House: New York.

JARVIS, R, K. (1980) Urban Environments as visual art or as social settings? A review. In: CARMONA, M, and TIESDELL, S. (2007) *Urban design reader.* Oxford: Architectural Press, pp. 24-32.

JORDAN, P. (2002) *Designing pleasurable products: an introduction to the new human factors*. London: Taylor & Francis.

KANHADILOK, P, and WATTS, M. (2014) Adult play-learning: Observing informal family education at a science museum, *Studies in the Education of Adults.*46 (1) pp.23-41.

KAPTELININ, V and NARDI, B. (2006) *Acting with technology: activity theory and interaction design.* Cambridge, Massachusetts; London: MIT.

KEPES, G. (1995) *Language of Vision,* New York: Dover publications.

KLANTEN, R. and HÜBNER, M. eds. (2010) *Urban Interventions: Personal Projects in Public Spaces. Berlin*, London: Gestalten.

KLUSZCZYNSKI, R, W. (2010) Strategies of Interactive Art, *Journal of Aesthetics and Culture*, 2 (1).

KNOX, P. (2011) *Cities and Design,* Abingdon: Routledge.

KOHN, M. (2004) *Brave New Neighbourhoods, The Privatization of Public Space*, New York: Routledge.

KOLB, A, and KOLB, D. (2010) Learning to play, playing to learn: A case study of a ludic learning space, *Journal of Organizational Change Management*, 23 (1), pp. 26-50.

KOOLHAAS, R. (2002) Junkspace, *Obsolescence.* 100, Spring, MIT Press. pp. 175-190.

KORHONEN, H, MONTOLA, M, and ARRASVUORI, J. (2009) *Understanding playful user Experience through Digital Games,* In the proceedings of the International conference on designing pleasurable products and interfaces. DPPI'09, (ACM Press: New York), pp.274-285.

LANDRY, C. (2012) *The creative city: a toolkit for urban innovators* London: Earthscan.

LAUREL, B. (2003) *Design Research: Methods and Perspectives,* London: MIT Press.

LAWSON, B. (2001) *The language of space.* Oxford: Architectural Press.

LEFEBVRE, H. (1991) *The production of space*. Oxford: Basil Blackwell.

LEFAIVRE, L. AND DOLL, G. (2007) *Ground up City: Play as a design tool,* Rotterdam: 010 Publishers.

LIBERMAN, J. N. (1977) *Playfulness: Its Relationship to Imagination and Creativity*, USA: Academic Press.

LONDON SE1. (2010) *Thomas Heatherwick's Spun Seats installed on the South Bank.* [WWW] Available from: http://www.london-se1.co.uk/news/view/4810 [Accessed: 09/10/2011].

LOUKAITOU-SIDERIS, A, and BANERJEE, T. (1998) Postmodern urban form, In: CARMONA, M, AND TIESDELL, S. (2007) *Urban design reader.* Oxford: Architectural Press.

LOWNSBROUGH, H, and BEUNDERMAN, J. (2007) *Equally Spaced? Public Space and Interaction between Diverse Communities*: A Report for the Commission for Racial Equality; Demos: London: UK.

LOWTHER, C and SCHULTZ, S. (2008) Bright: Architectural illuminations and light installations, Amsterdam: Frame publishers.

LUCERO, A, and ARRASVUORI, J. (2010) PLEX Cards: a source of inspiration when designing for playfulness, *Proceedings of the 3rd International Conference on Fun and Games,* pp.28-37, September 15-17, Leuven, Belgium .

LUCERO, A. and ARRASVUORI, J. (2013) 'The PLEX Cards and its techniques as sources of inspiration when designing for playfulness', *Int. J. Arts and Technology*, 6, (1), pp.22–43.

LYNCH, K. (1960) *The image of the city,* London: M.I.T.Press.

LYDON, M, and GARCIA, A. (2015) *Tactical Urbanism Short-term Action for Long-term Change,* USA: Island Press.

MADANIPOUR, A. (2003) *Public and private spaces of the city,* London: Routledge.

MAIL ONLINE. (2013) *To have and to hold: We now spend more time looking at our PHONE than with our partner*. [WWW] Available from: http://www.dailymail.co.uk/sciencetech/article-2333261/We-spend-MORE-time-phones-partner.html#ixzz3HY2Sl2Xc [Accessed 29/10/14].

MARSH, J, and WOOD , E. (2014) *Exploring Play: the Importance of Play in Everyday Life*, University of Sheffield online learning programme [WWW] Available from: https://www.futurelearn.com/courses/play [Accessed 02/08/14].

MCQUIRE, S. (2008) *The Media City: Media, Architecture and Urban Space,* London: Sage Publications.

MEHTA, V. (2014) Evaluating Public Space, *Journal of Urban Design*, 19, (1) pp.53–88.

MERRY, A. (2009) *The exchange and relationship between interior and exterior spaces: a new public installation incorporating an interactive design*. Unpublished Thesis, (MA – Design Innovation) DeMontfort University, Leicester.

MERRY, A. (2012) An Investigation into Integrated Art and Design in Public Space in relation to Sustainable Development for the 21st Century City and its Society. *In the proceedings of: InSea 2012 European Regional Conference, Limassol: Cyprus, June 2012.* Available from: http://www.insea2012.org/files/InSEA%202012%20Prceedings.pdf pp.251 -260.

MERRY, A and DANIEL, S. (2012) *Model making: A tool for visualizing the built environment and how it continues to play a vital and increasing role as a teaching method.* In the proceedings of: InSea 2012 European Regional Conference, Limassol: Cyprus, June 2012. Available from: http://www.insea2012.org/files/InSEA%202012%20Prceedings.pdf pp. 488-498.

MERRY, A, and CARRAZ, R. (2016). Exploring the Social Impacts of Temporary, Playful, and Artistic Interventions: A Case Study on Public Spaces in Cyprus. *The International Journal of Social, Political and Community Agendas in the Arts.* 12 (1) pp. 29-46.

MILLAR, S. (1968) *The Psychology of Play,* USA:Penguin.

MILES, M. (1997) *Art, space and the city: public art and urban futures,* London : Routledge.

MINTEL. (2014a) *Mintel releases 2014 US consumer trends*. USA: Mintel International.

MINTEL. (2014b) *Digital Trends Summer,* January 2014. UK: Mintel International.

MODA. (2018) *Designing Playful Cities,* [WWW] Available from: http://www.museumofdesign.org/designingplayfulcities. [Accessed 20/02/2018].

MONTAGU, J. ed. (2007) *Open space: art in the public realm in London, 1995-2005*. London: Arts Council England.

MÜLLER,J, ALT, F, MICHELIS, D and SCHMIDT, A. (2010) *Requirements and design space for interactive public displays*. In Proceedings of the 18th ACM international conference on Multimedia (MM '10). ACM, New York, NY, USA, pp. 1285-1294.

MUNRO, K. (2017) Tactical urbanism: a new approach to your libraries' work. *American libraries* (Chicago, Ill.) 48 (9-10) September pp.50-52.

MURRAY, C. (2005) The Artist s Place Maker. In: *Re Views: Artists and Public Space*, Charity, R (ed.) (2005) Black Dog Publishing: UK

NATIONAL INSTITUTE FOR PLAY (2010) *The Vision* [WWW] Available from: http://www.nifplay.org/vision.html [Accessed 05/01/11].

NEAL, Z. (2010) *Seeking common ground: Three perspectives on public space.* Proceedings of the Institution of Civil Engineers: Urban Design and Planning, 163(2), pp. 59-66.

NEWMAN, O. (1966) *Creating Defensible Space,* USA: DIANE Publishing.

NORMAN, A, D. (2004) *Emotional Design: Why we love (or hate) everyday things.* New York: Basic Books.

OLDENBURG, R. (1991) *The Great Good Place,* Paragon House: New York.

ORUM, A and NEAL, Z. eds. (2010) *Common Ground? Readings and Reflections on Public Space.* Routledge, New York.

OXFORD DICTIONARY (2010) *Oxford Dictionary,* Oxford University Press: Oxford.

OXFORD DICTIONARY (2018) *Oxford Dictionary,* Oxford University Press: Oxford.

PERSCHKE, K. (2001) *RedBall Project (about)* [WWW] Available from: https://redballproject.com/about/ [Accessed: 25/03/2012]

PIAGET, J. (1962) *Play, Dreams and Imitation in Childhood,* New York: W.W. Norton.

PINE, B, J. and GILMORE, J, H. (1999) *The experience economy: work is theatre & every business a stage,* Boston, Mass: Harvard Business School.

PLASTIQUE FANTASTIQUE. (2008)*Karl Marx Bonsai,* [WWW] Available from: http://plastique-fantastique.de/KARL-MARX-BONSAI [Accessed: 02/08/2012].

PLASTIQUE FANTASTIQUE. (2008) *Plastique Fantastique (about)* [WWW] Available from: www.plastique-fantastique.de/Plastique-Fantastique [Accessed: 15/11/2014].

POPLIN, A. (2012) Playful public participation in urban planning: A case study for online serious games. In Computers, *Environment and Urban Systems,* 36, May. pp.195–206.

PPS, INC. eds. (2000) *How to turn a place around: a handbook for creating successful public spaces,* New York: Project for public spaces.

PRAGER, P. (2013) Play and the Avant-Garde: Aren't We All a Little Dada? *American Journal of Play,* 5, (2) pp.239-256.

PPS, INC. (2009) *The Power of 10+* [WWW] Available from: https://www.pps.org/article/the-power-of-10 [Accessed 10/03/2009].

PROYER, R, T. (2012) Development and initial assessment of a short measure for adult playfulness: The SMAP. *Personality and Individual Differences,* 53, July. pp. 989–994.

PROYER, R, T. and JEHLE, N. (2013) The basic components of adult playfulness and their relation with personality: The hierarchical factor structure of seventeen instruments. *Personality and Individual Differences*, 55, July. pp. 811–816.

PROYER, R,T. (2016) A new structural model for the study of adult playfulness: Assessment and exploration of an understudied individual differences variable. *Personality and Individual Differences,* 108, pp.113–122

RICE, L. (2009) Playful learning. *The Journal for Education in the Built Environment*, 4 (2). pp. 94-108.

RODGERS, R. and POWER, A. (2000) *Cities for a small country,* Cambridge: University press.

SALMOND, M. and AMBROSE, G. (2013) *The fundamentals of interactive design,* London: AVA.

SANDERS, E. (2002) From User-Centered to Participatory Design Approaches. In: J.FRASCARA ed. (2002) *Design and the Social Sciences.* USA: Taylor & Francis

SANDERS, E, and STAPPERS, P, J. (2008) Co-creation and the new landscapes of design, *CoDesign,* 4 (1) March pp. 5-18.

SANDU PUBLISHING ed (2014) *Installation art now,* California: Gingko Press

SAUNDERS, M. LEWIS, P and THORNHILL, A. (2003) 3rd ed, *Research Methods for Business Students,* London: Pearson Education Ltd.

SCHUMACHER, E,F. (1973) *Small is beautiful: Economics as If People Mattered,* London: Blond & Briggs.

SCRIVENER, S. (2011) *Reflections on Interactive Art and Practitioner Research: Establishing a Frame.* In CANDY, L. and EDMONDS, E. A. eds. (2011) Interacting: Art, research and the Creative Practitioner. Oxford: Libri Press, pp. pp. 60-72.

SENNETT, R. (2000) *The Corrosion of Character: the personal consequences of work in the new capitalism*, New York: Norton

SICART, M. (2014) *Play Matters*. MIT Press: USA.

SHEN, S, CHICK, G and ZINN, H. (2014) Validating the Adult Playfulness Trait Scale (APTS): An Examination of Personality,Behavior, Attitude, and Perception in the Nomological Network of Playfulness, *American Journal of Play*, 6 (3) pp.345-369.

STEANE, J. (2014) *The Principles and processes of interactive design.* London: Bloomsbury.

STEELE, F. (1973) *Physical settings and organization development,* USA: Addison-Wesley Longman.

STEVENS. Q. (2007) *The Ludic City: Exploring the Potential of Public Spaces,* Routledge: Oxford.

STEYN, J. (2014) *The art of experience in the age of a service economy*, chapter 10. In BROWN, K. (2014) Interactive contemporary art: participation in practice, London: I.B. Tauris. pp.221-237.

STURKEN, M. (2000) The Space of Electronic Time: The Memory Machines of Jim Campbell, In: SUDERBURG, E. (2000) *Space, site, intervention: situating installation art,* Minneapolis; London: University of Minnesota Press. pp. 287

SUNDBO, J. (2008) The Exposure Society. Paper presented at Cultural Production and Experience, Roskilde, Denmark.

SUNDBO, J. and HAGEDORN-RASMUSSEN, P. (2008) The Backstaging of experience production. In: SUNDBO, J. and DARMER, P. (eds.). *Creating experiences in the experience economy,* Cheltenham: Edward Elgar Publishing, Incorporated, pp. 83-110.

SUNDBO, J. (2010) *The Exposure Society: Experience as a new aspect of social status*, A report for Roskilde University, Centre of Service Studies: Roskilde University.

SUDERBURG, E. (2000) *Space, site, intervention: situating installation art*, Minneapolis; London: University of Minnesota Press.

SUTTON-SMITH, B and BYRNE, D, K. (1984) *The masks of play,* Leisure Press: USA.

SUTTON-SMITH, B. (1997) *The Ambiguity of Play*. Harvard University Press: USA.

TACITA, D and MILLAR, J. (2005) Art Works: Place, London: Thames & Hudson.

TATE (2017a) *Public art* [WWW] Available from: http://www.tate.org.uk/art/art-terms/p/public-art [Accessed 10/03/17].

TATE (2017b) *Interactive Art* [WWW] Available from: http://www.tate.org.uk/art/art-terms/i/interactive-art [Accessed 10/03/17].

TATE (2017c) *Installation Art* [WWW] Available from: http://www.tate.org.uk/art/art-terms/i/installation-art [Accessed 10/03/17].

TATE (2017d) *Art Intervention* [WWW] Available from: http://www.tate.org.uk/art/art-terms/a/art-intervention [Accessed 10/03/17].

TATE (2017e) *Relational Aesthetics* [WWW] Available from: http://www.tate.org.uk/art/art-terms/r/relational-aesthetics [Accessed 10/03/17].

TATE (2017f) *Environment Art* [WWW] Available from: http://www.tate.org.uk/art/art-terms/e/environments [Accessed 10/03/17].

TIGER, L (1992) *The Pursuit of Pleasure,* USA: Transaction Publishers

The promise of play (2000) Documentary. Complied by The National Institute for play. USA: Public Broadcasting service.

TRANCIK, R. (1986), *What is Lost Space?* In CARMONA, M, AND TIESDELL, S. (2007) Urban design reader. Oxford: Architectural Press.

TUAN, Y. (1977) *Space and place: the perspective of experience.* London: Edward Arnold.

Urban Wisdom (2003) Film. Directed by DON ALEXANDER. USA: Films for the Humanities.

Urbanized (2012) Documentary. Directed by GARY HUSTWIT, USA: Film Series, Design Trilogy.

VAN LEEUWEN, L, and WESTWOOD, D (2008) Adult play, psychology and design, *Digital Creativity,* Digital Creativity 19 (3) pp. 153–161.

VICTIONARY. ed, (2009) *Design play: an array of quirky design,* Hong Kong : Victionary.

VOGEL, D, and BALAKRISHNAN, R. (2004) *Interactive public ambient displays: transitioning from implicit to explicit, public to personal, interaction with multiple users.* In Proceedings of the 17th annual ACM symposium on User interface software and technology (UIST '04). ACM: New York.

VOLKSWAGEN. (2009) *The Fun Theory* [WWW] Available from: http://www.thefuntheory.com/ [Accessed 10/01/11].

VYGOTSKY, L, S. (1966) Play and its role in the mental development of the child, Translated by Nikolai VERESOV, N and BARRS, M. (2016) in: *International Research in Early Childhood Education* 7 (2) 2016. pp. 3-25.

WALTZ, S,P. (2010) *Toward a ludic architecture: the space of play and games,* USA:ETC Press.

WEST, S, E, HOFF, E and CARLSSON, I. (2016) Play and Productivity Enhancing the Creative Climate at Workplace Meetings with Play Cues, *American Journal of Play*, 9, (1). pp. 71-86.

WHITEBREAD, D, BASILIO, M, KUVALJA, M and VERMA, M. (2012) *The Importance of Play: A report on the value of children's play with a series of policy recommendations* Brussels, Belgium: Toys Industries for Europe.

WHYBROW, N. (2010) *Art and the City,* UK: I.B. Tauris.

WHYTE, W. (1980) *The Social Life of Small Urban Spaces*, Washington, D.C: The Conservation Foundation.

WINNICOTT, D, W. (1971) *Playing and Reality,* London: Tavistock.

WORPOLE, K. (2000), *Here comes the sun: architecture and public space in twentieth-century European culture.* London: Reaktion.

WORPOLE, K. and KNOX, K. (2007) *The social value of public spaces*, Joseph Rowntree Foundation: York [WWW] Available from: www.jrf.org.uk/bookshop/eBooks/2050-public-space-community.pdf [Accessed 22/11/08].

WORLD COMMISION ON ENVIRONMENTAL DEVELOPMENT (1987) *Definitions of sustainability* [WWW] Available from: http://www.bathtram.org/tfb/tE04.htm [Accessed 20/04/2009].

WUNDERLICH, P. (2014) Place-temporality and rhythmicity: a new aesthetic and methodological foundation for urban design theory and practice. In Carmona, M. (eds). *Explorations in Urban Design: An Urban Design Research Primer.* Surrey, UK: Routledge.

YIN, R. (1994). *Case Study Research: Design and Methods*. London: Sage.

ZIMNA, K. (2014) *Time for Play,* UK: I.B.Tauris.

ZOTES, M. (2013) *Making Public space more public* [online video] Available from: http://www.youtube.com/watch?v=B7_uB51UU8s [Accessed 17/05/13].

Image Reference

Figure 1.4: CHANG, C (2011) *Before I Die* [online image] Available from: https://www.artprize.org/candy-chang/2014/before-i-die [Accessed: 02/08/2012]

Figure 1.5: VOLKSWAGEN FUN THEORY (2009) *Piano Stairs* [online image] Available from: https://www.uitagendarotterdam.nl/nieuws/rotterdam-centraal-krijgt-pianotrap/ [Accessed: 05/07/2012]

Figure 2.2: MAGRITTE, R. (1930) *The Key of Dreams* In: Berger, J (1972) *Ways of Seeing,* London: Penguin. Pp.8.

Figure 2.3 PPS, INC. (2000) *Place Diagram,* In: PPS, INC (eds). (2000) How to turn a place around: a handbook for creating successful public spaces, New York: Project for public spaces. pp.17.

Figure 2.4: STARCK, P. (1990) *Juicy Salif Lemon Squeezer* [online image] Available from: https://www.dezeen.com/2014/07/09/movie-alberto-alessi-juicy-salif-controversial-lemon-squeezer-philippe-starck/ [Assessed: 07/02/18]

Figure2.10: CHANG, C. (2011*) I wish this was...* [Video Screenshot] In: Urbanized' (2012) Documentary Directed by Gary Hustwit, USA: Film Series, Design Trilogy.

Figure 2.11: CHANGE, RESEARCH PROJECT. (2011) *The Tidy Street Project* [Video Screenshot] In: Urbanized' (2012) Documentary Directed by Gary Hustwit, USA: Film Series, Design Trilogy.

Figure 2.12a: VOLKSWAGEN FUN THEORY. (2009) *Piano Stairs* [online image] Available from: https://www.uitagendarotterdam.nl/nieuws/rotterdam-centraal-krijgt-pianotrap/ [Accessed: 05/07/2012]

Figure 2.12b: WEIWEI, A. (2010) *Sunflower Seeds*, Tate Modern, London [online image] Available from: http://www.tate.org.uk/whats-on/tate-modern/exhibition/unilever-series/unilever-series-ai-weiwei-sunflower-seeds [Accessed: 22/09/2014]

Figure 2.12c: WEIWEI, A. (2010) *Sunflower Seeds*, Tate Modern, London [online image] Available from: http://www.london-insider.co.uk/2010/11/dust-mask-not-included-ai-weiwei-sunflower-seeds-tate-modern/ [Accessed: 22/09/2014]

Figure 2.14 a: LES ASTRONAUTES. (2013) *Delirious Frites* [online image] Available from: http://www.contemporist.com/delirious-frites-by-les-astronautes/ [Assessed: 07/02/18]

Figure 2.14 b: URBAN CONGA. (2013) *Hedron* [online image] Available from: http://www.theurbanconga.com/products-new02 [Assessed: 07/02/18]

Figure 2.14 c: HEATHERWICK, T. (2010) *Spun Chair* [online image] Available from: http://cooperhewitt.photoshelter.com/image/I0000rfrCKe1olwM [Assessed: 07/02/18]

Figure 2.15: INDIANA, R. (1976) *LOVE* [online image] Available from: http://www.associationforpublicart.org/artwork/love/ [Assessed: 07/02/18]

Figure 2.16a: SARACENO, T. (2013) *In Orbit* [online image] Available from: http://tomassaraceno.com/projects/in-orbit/ [Assessed: 07/02/18]

Figure 2.18a: COMFORT 6 (2008) *La noche en blanco*, Madrid [online image] Available from: https://galerieursmeile.com/artists/artists/lb/comfort-6-2008/workdetail.html?cHash=54a49060d14a0fa7bd5f9e1f4c941a21 [Assessed: 07/02/18]

Figure 2.18b: SZEJNOCH, K. (2008) *Swing,* Warsaw [online image] Available from: http://www.furgaleria.pl/blog/89/Urban+interventions.+O+sztuce+w+przestrzeni+miejskiej..html [Assessed: 07/02/18]

Figure 2.19: CSPM GROUP (2015) *Tactical Urbanism Collage* [online image] Available from: https://cspmgroup.com/2016/10/09/why-tactical-urbanism-is-key-to-downtown-revitalization/ [Assessed: 07/02/18]

Figure 2.20 a: BANSKY. (2013) *Graffiti is a Crime* [online image] Available from: http://www.streetartbio.com/banksy?lightbox=image1zb3 [Assessed: 07/02/18]

Figure 2.20 b: JR. (2011) *The Wrinkles of the City* [online image] Available from: http://www.streetartbio.com/jr?lightbox=image1xhq [Assessed: 07/02/18]

Figure 2.20 b: WATT, L and WATT, J. (2013) *Squid Tree* [online image] Available from: https://knitsforlife.com/yarn-bombs/ [Assessed: 07/02/18]

Figure 2.21 a/b: BLAST THEORY (2001) *Can you see me now?* [online image] Available from: https://adventure.howstuffworks.com/outdoor-activities/urban-sports/urban-gaming1.htm [Assessed: 07/02/18]

Figure 2.21 c: NIANTIC (2016) *Pokemon Go* [online image] Available from: https://www.cinemablend.com/games/1533430/what-is-pokemon-go-and-why-is-it-such-a-big-deal [Assessed: 07/02/18]

Figure 3.1: PLASTIQUE FANTASTIQUE. (2008) *Karl Marx Bonsai,* Berlin [online images] Available from: http://plastique-fantastique.de/KARL-MARX-BONSAI [Accessed: 02/08/2012]

Figure 4.4: DAILY TOUS LES JOURS. (2010) *Musée des possible*, Montreal [online image] Available from: http://www.dailytouslesjours.com/project/musee-des-possibles/ [Accessed: 20/06/2012]

Figure 4.6: RED SWING PROJECT (2007) *Red Swing Project* [online image] Available from: http://www.hatchworkshop.com/red-swing/ [Accessed: 06/04/2012]

Figure 4.7: VOLKSWAGEN FUN THEORY (2009) *Piano Stairs*, Sweden [online image] Available from: https://www.uitagendarotterdam.nl/nieuws/rotterdam-centraal-krijgt-pianotrap/ [Accessed: 09/08/2011]

Figure 4.8: CHANG, C. (2011) *Before I Die* [online image] Available from: http://candychang.com/work/before-i-die-in-nola/ [Accessed: 06/04/2012]

Figure 4.9: VOLKSWAGEN FUN THEORY (2009) *The world's deepest bin*, Sweden [online image] Available from: https://www.treehugger.com/culture/the-worlds-deepest-trash-bin-and-other-behavior-changing-inventions-videos.html [Accessed: 09/08/2011]

Figure 4.10: PLASTIQUE FANTASTIQUE. (2008) *Karl Marx Bonsai*, Berlin [online images] Available from: http://plastique-fantastique.de/KARL-MARX-BONSAI [Accessed: 02/08/2012]

Figure 4.11: HEATHERWICK, T. (2010) *Spun Chair* [online image] Available from: http://ayehiworld.blogspot.com.cy/2011/03/adult-playground-installations.html [Accessed: 09/10/2011]

Bibliography

AREFI, M. (2004) The pedagogy of the American city: revisiting the concepts of place, non-place, and placelessness, *URBAN DESIGN International*, 9, pp. 103–117.

AMIN, A. (2016) On Urban Failure, *Social Research,* 83 (3) pp.777.

BANERJEE, T. (2001) The future of public space: Beyond invented streets and reinvented places, *American Planning Association. Journal of the American Planning Association,* 67 (1), pp.9.

BANERJEE, T, and LOUKAITOU- SIDERIS, A. eds. (2011) *Companion to Urban Design*, London: Routledge.

BATTARBEE, K, and KOSKINEN, I. (2005) Co-Experience : user experience as interaction, *co design*, 1 (1) March. pp. 5-18.

BROWN, S. (1998). Play as an organizing principle: Clinical evidence and personal observations. In M. Bekoff & J. Byers (Eds.), *Animal Play: Evolutionary, Comparative and Ecological Perspectives* pp. 243-260.

BROWN, S. (2009) Discovering the Importance of play through personal histories and brain images: An interview with Stuart L. Brown. *The American Journal of Play,* 1 (4) pp. 399-412.

BURNS, R.B. (2000) *Introduction to Research Methods,* 4th ed. London : Sage.

CARMONA, M (2015) Re-theorising contemporary public space: a new narrative and a new Normative, Journal of Urbanism, 8 (4) pp. 373–405.

CASTLE, H, ed. (2007) *Architectural Design:4D Social, Interactive Design Environments,* 77 (4), Number 188 July – August 2007.

CSIKSZENTMIHALYI, M. (1975). *Beyond boredom and anxiety: Experiencing flow in work and play.* San Francisco, CA: Jossey-Bass.

DALSGAARD, P. (2017) Instruments of inquiry: Understanding the nature and role of tools in design. *International Journal of Design,* 11(1), pp. 21-33.

DE VALK, L, BEKKER, T, and EGGEN, B. (2015) Designing for Social Interaction in Open-Ended Play Environments, *International Journal of Design* 9 (1) pp. 107- 120.

DEKEL, A, YITZHAK, S, HILA, D, EZRI, T, OREN, R, and YOAV, S. (2005) Adding Playful Interaction to Public Spaces. In: MAYBURY M., STOCK O., WAHLSTER W. (eds) *Intelligent Technologies for Interactive Entertainment*. INTETAIN 2005. Lecture Notes in Computer Science, vol 3814. Springer, Berlin: Heidelberg.

DESMET, P. M. A, & HEKKERT, P. (2007) Framework of product experience. *International Journal of Design,* 1(1), pp. 57-66.

DEMIR, E, DESMET, P, & HEKKERT, P. (2009) Appraisal Patterns of Emotions in Human-Product Interaction. International Journal of Design, 3(2), 41-51.

EHRENFEUCHT, R, and LOUKAITOU-SIDERIS, A. (2010) Planning Urban Sidewalks: Infrastructure, Daily Life and Destinations, *Journal of Urban Design*, 15. (4), pp.459–471.

FRANGA, J. (2015) *Thirty-one Days to Understanding Bansky: How Truthful are Banksy's Criticisms?* In Proceedings of the Tenth International Conference on the Arts in Society: The Work of Art in the Age of Networked Society. Imperial College London, 22-24 July.
FORTY, A. (2005) *Objects of Desire,* USA: Thames and Hudson.

GHEL, J. (1971) *Three types of outdoor activities; Outdoor activities and quality of outdoor space.* In: CARMONA, M, AND TIESDELL, S. (2007) Urban design reader. Oxford: Architectural Press.

GEHL, J. (2003) *Winning back the Public Spaces,* Conference lectured at the symposium "(In)visible Cities. Spaces of Hope, Spaces of Citizenship", Centre of Contemporary Culture of Barcelona, 25-27 July 2003)

GRAY, P. (2014) *The Decline of Play and Rise of Mental Disorders* TEDxNavesink. Available from: http://tedxtalks.ted.com/video/The-Decline-of-Play-and-Rise-of [Accessed 09/11/14].

HER, J, and HAMLYN, J. (2010) Meaningful Engagement: Computer-Based Interactive Media Art in Public Space. In: Huang F., Wang RC. (eds) *Arts and Technology.* ArtsIT 2009. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol 30. Springer, Berlin, Heidelberg .

HO, D. K. L., and LEE, Y. C. (2012) The quality of design participation: Intersubjectivity in design practice. *International Journal of Design,* 6(1), pp. 71-83.

HOUSE OF LORDS (2016) *Building better places,* London: The Stationery Office Limited.

JONES, P, B, PETRESCU, D, and TILL, J. eds (2005) *Architecture and Participation*, UK: Spon Press.

KOSTER, R. (2013) 2nd ed *A theory of fun for game design,* Sebastopol, California: O'Reilly.

LEFEBVRE, H. (2003) *The Urban Revolution,* Translated by Robert Bononno, Minneapolis, Minnesota; London: University of Minnesota Press.

LEFEBVRE, H. (1991) *The Production of Space,* Translated by Donald Nicholson-Smith, Oxford: Basil Blackwell.

MARCUS, C, C, and FRANCIS, C. (1998) 2nd ed, *People places: Design Guidelines for urban open spaces,* New York; Chichester: John Wiley.

MAURIZIO, C. (2007) *Creative City: Dynamics, Innovations and Actions.* Barcelona : Rubberttino.

MINTON, A. (2009) *Ground Control: Fear and Happiness in the twenty-first-century city.* London: Penguin

NAM, T, and KIM, C. (2011) Design by tangible stories: Enriching interactive everyday products with ludic value. *International Journal of Design, 5*(1), pp. 85-98.
PPS, INC (2008) *Streets as Places,* Project for Public Spaces, Inc. Reprinted by: AARP.

SAAD-SULONEN, J. ERIKSSON, E, HALSKOV, K, KARASTI, H and VINES, J. (2018) Unfolding participation over time: temporal lenses in participatory design, *CoDesign,* 14 (1) pp. 4-16.

SANDERS, E, and STAPPERS, J. P. (2014) Probes, toolkits and prototypes: three approaches to making in Codesigning, *CoDesign,* 10 (1), pp. 5–14.

SIU, K. W. M. (2007) Guerrilla wars in everyday public spaces: Reflections and inspirations for designers. *International Journal of Design,* 1(1), pp. 37-56.

SCHNEEKLOTH, L, H, and SHIBLEY, G, R. (2000) Implacing Architecture into the Practice of Placemaking, *Journal of Architectural Education*, 53 (3), Beyond Expert Culture. pp. 130-140.

THE RED SWING PROJECT. (2014) *About the project* Available from: http://www.redswingproject.org/ [Accessed 9/1/2014].

WALL, E, and WATERMAN, T. (2010) *Urban Design,* Switzerland : AVA Publishing.

Appendices

Appendix 3.1: Let's Intervene Project Brief

Let's Intervene!

A project in collaboration with *'An investigation into playful interactive experiences within public space.*' A PhD study by Anna Louise Merry In collaboration with De Montfort University, Leicester, UK.

Aims

- To explore Interactive experiences within public space
- To increase user experience and interaction
- Expose the public to interactive installations and projects otherwise avoided
- Allow users to explore their personal creativity
- Create design solutions which are both flexible and adaptable
- Create a sense of place to lost public areas of the University

Background

Public space was once a place where people met, interacted and socialized. Research reveals that countless public spaces have become unwelcoming, unusable and unapproachable. Additionally public opinion illustrates that declining sociability is an increasing issue, strangers no longer interact and our communities continue to grow further apart. Since the coming of industry our spaces have become progressively unnatural, we are increasingly interacting with technology rather than each other. Our central skills of communication develop at a young age where play is a major contributor; in a globalized world, play is increasingly becoming interactions with virtual space rather than the physical. Technology has the power to enrich and enhance our learning and experiences, but are we beginning to lose our perceptions of the physical setting? By incorporating interactions people can experience a space that does not only connect with its surroundings but also where people can form a relationship with both the space and other users. Experience shapes space and without an experience a space is likely to become boring and unused. Public spaces are not defined to any specific area of a country or city; the project aims to create designs which could be successful in any site as an integrated design. Successful public spaces should provide an overall good quality environment providing a 'sense of place.'

MERRY, A. (2009) The exchange and relationship between interior and exterior spaces: a new public installation incorporating an interactive design. Unpublished Thesis, (MA – Design Innovation) De Montfort University, Leicester.

Project Requirements

As groups you will design create interactive playful experiences to intervene with everyday life in the public areas of Frederick University.

The project is divided into 3 major stages:

1. Analysis of the space (Site selection)
2. Create Design Proposals for final Design Production (Collaborative final designs based upon the framework for the creation of the playful interactive experience)
3. Data collection and documentation

Accessibility (To the site)	Design Communication	Play Permission	User Interaction	User Reaction	Design Suitability	Level of Permanence
Walkable	Familiarity	Utilisation of senses	Actions and Interactions	Instinctive Response	Diverse	Temporary
Safe	Attractive	Creativity	Individual & Cooperative	Captivation	User Choice	Transient
Neighbourly	Welcoming	Active	Social Activity	Sensation & Pleasure		Mobile Nature
Convenient	Engaging	Fun	Exchange & Communication	Stimulation		
Proximity	Random Encounter	External Stimuli	Experience	Fantasy		
Connected	Incentive	Exploration	Active Participation			
	Transfer	Discovery	Social Activity			

Framework for the creation of the playful interactive experience

Appendix 3.2: Interview Consent Form

INTERVIEW CONSENT FORM

Research Title:
An Investigation into Playful Interactive Experiences in Public Space

Research Aim:

To increase social and spatial interactions within public space through the inclusion of playful interactions.

Researcher(s):
Anna Louise Merry: De Montfort University PhD student
Tel: +35796553750

Dear participant

This letter is to inform you about my project and your involvement in the hope that you will participate in a study as part of my PhD research at De Montfort University. This study will inform my project on the needs and thoughts of an expert in relation to public spaces and playful design.

The interview will be so that I can:

Gain knowledge and insight into existing and current public design projects from the initial design thinking to the more complex and practical solutions as well as user thinking and needs, also to find out valuable information and opinions to continue with my design work and research through design. It will involve an interview of approximately 30 minutes in length to take place on _____ 20__ as previously arranged. You may decide not to answer any of the interview questions if you wish. You may also decide to withdraw from this study at any time by advising Anna Merry.

I may ask for clarification of some points some time after the interview, but you will not be obliged in any way to clarify or participate further. Beyond that I will not seek any more interviews or make any further contact with you about this after the interview unless you ask me to. If you request, the information you provide can be considered confidential, except that with your permission anonymised quotes may be used. If you request confidentiality, beyond anonymised quotes, information you provide will be treated only as a source of background research, alongside book, web-based research and interviews with others. If you request, your name or any other personal identifying information will not appear in the course project paper resulting from this study; neither will there be anything to identify your place of work or the business. Notes collected during this study will be retained for the rest of the academic process in a secure location and then destroyed. The information gained from this interview will only be used for the above objectives, will not be used for any other purpose and will not be recorded in excess of what is required. Even though I may present the study findings to the class, only members of the course team and I will have access to the interview data itself. There are no known or anticipated risks to you as a participant in this study. If you have any questions regarding this study or would like additional information please ask me before, during, or after the interview. I can assure you that this study has been reviewed and approved by my project supervisor. Thank you for your assistance in this project.

Yours Sincerely,
Anna Louise Merry

Your signature on this form means that:

- You have read the information about the research
- You have been able to ask questions about this study
- You are satisfied with the answers to all of your questions
- You understand what the study is about and what you will be doing
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.

If you sign this form, you do not give up your legal rights, and do not release the researchers from their professional responsibilities.

I have read the information presented in the information letter about a study being conducted by Anna Merry for PhD research at De Montfort University. I have had the opportunity to ask any questions related to this study, and received satisfactory answers to my questions, and any additional details I wanted. I am also aware that excerpts from the interview may be included in the course project paper to come from this research. Quotations will / will not be kept anonymous. I do/do not give permission for my identity to be revealed in research reports.

I was informed that I may withdraw my consent at any time by advising the student researcher. With full knowledge of all foregoing, I agree to participate in this study.

You **may / may not** disclose my personal details.

I am **above** / **below** the age of 18.

……..
Name

…….. **……**
Signature **Date**

Appendix 3.3 – Interview Guiding Questions

(a.) Antonis Mitsingas: Social Psychologist (Interview 1&3)

Biography:

"Born in 1953 in Nicosia and a graduate of a multicultural high school, the Terra Santa College. Was awarded his B.A. degree in Psychology at the American College of Greece in 1979 and then studied social psychology at LSE - the London School of Economics and Political Sciences, where he received his M.Sc. His thesis was on change of attitudes of people after a group discussion. While studying at the university he was attending group psychotherapy at the Athenian Institute of Anthropos in Athens and under leading psychotherapists in London. At the same time he took part in various pioneering research projects and conferences related to social psychology. Was appointed as a managing director of RTI in Nicosia (1993-2003), as manager of the Bahrain office of MEMRB (1986-88) and as the Secretary General of the Pierides foundation in Larnaca (1980-83). Dedicated himself to training and teaching adults programs in human resource management topics for more than ten years of his professional life. Offered his services at the Cyprus Productivity Centre (1989-93) and delivered lectures at the Cyprus Police Academy. Author of several newspaper articles, published mainly in Philieftheros daily newspaper in areas related to employment and human resource development. Took part in more than twenty pioneering research projects funded by the European Commission related to the introduction of innovative products and practices in European countries, in science and education. Shared scientific knowledge mainly in social sciences subjects in many Middle East and European countries. For about twenty years he was actively involved with the Family Planning Association, Youth Organisation of Cyprus and several Social Welfare Councils. Received awards for his active involvement and contribution to voluntary organisations of Cyprus. Since 2003 he is mainly teaching courses in psychology and sociology as special teaching staff at Frederick University."

Frederick University Faculty Profile. Available from: http://www.frederick.ac.cy/index.php?option=com_content&view=article&id=385&Itemid=599&lid=266 Accessed: 02/06/2012

First Stage Interview:

Interview aim:

- To confirm and enhance the notions of play and playful interactivity.
- To set the scene for a second stage interview post design for research, for expert feedback.
- To utilise guiding topics for open ended discussions on play and its benefits

Guiding questions:

Topic 1: What is play to you?

- Can we contextualise play?
- Why do children need to play?

Topic 2: Is there a difference between child and adult play?

- How does play change as we develop?
- One view is that adult play is an escape from our world what is your opinion?

Topic 3: What do you think socialising is today?

- How can we relate play to socialising and the development of social skills?
- Has it changed since technology has been introduced?
- How do you think technology is affecting children today?
- How do you predict technology will affect the development of play in the future?

Second Stage Interview:

Interview aim:

- To provide the investigation with professional feedback on the 'let's intervene' events
- To utilise guiding topics for open ended discussions on play and its benefits

Topic 1: Can you give me your opinion on the impact of the projects in relation to:

- Increased social interactions
- Users sense of place
- Attraction of users to previously unused spaces

Topic 2: User reactions:

- How did children react? Can you explain why?
- How did adults react? Can you explain why?

Topic 3: Design Aesthetic

- Looking at each design, can you comment on users reactions?

Topic 4: If this was to be done again do you have any suggestions?

- Aesthetics
- Evaluation of Interactions

Topic 5: Any further comments from your expertise?

(b.) Kurt Perschke: Artist and Creator of the Redball Project (Interview 2)

Biography:

"Kurt Perschke is an artist who works in sculpture, video, collage and public space. His most acclaimed work, RedBall Project, is a travelling public art project that has taken place in Abu Dhabi, Taipei, Perth, England, Barcelona, St. Louis, Korea, Portland, Sydney, Arizona, Chicago and Toronto, and received a National Award from Americans for the Arts Public Art Network. RedBall has been avidly followed by the media, appearing in over one hundred media outlets including magazines, television, newspaper and radio. In addition to RedBall, Perschke has completed commissions for several institutions including The Museum of Contemporary Art Barcelona, the Vienna Technical Museum, and the Contemporary Art Museum in St. Louis. His video work has been screened in Europe and the US, and at the Bronx Museum during his time as an AIM Fellow. Born in Chicago, Kurt Perschke has also lived in the Virgin Islands, St. Louis, Vienna, and Cairo, Egypt. He currently lives and works in New York City."

Artist Biography Available from: https://redballproject.com/about/ Accessed: 25/03/2012

Aim:

- To understand the fundamentals of a successful Playful and Interactive Experience
- To utilise guiding topics as well as structured questions for open ended discussion on the impact of the Redball Project.

Guiding questions:

Topic 1: The Redball as catalysts for encounters with the everyday (to access the imagination):

- What are the different levels of encounters that you witness?
- Something I have been looking at is the domino effect of hoe others playing attract others. What are your thoughts?
- Do you ever see any bad experiences?

Topic 2: Nostalgia in public space

- Are there any places where the redball hasn't been successful?
- Do you view the city as a canvas?
- Do you believe the public have a connection with nostalgia in public space?
- Do you believe fellow artists, designers and planners have a connection with nostalgia also?

Topic 3: Permanent vs. temporary public art:

- You are from Chicargo (I admire the millennium square) where most of the public works are permanent. Can you compare user interactions with these types of works and the red ball?
- What do you think is the ideal length of time?
- Have you ever left it too long?

Topic 4: Function vs. Aesthetic

- You have a great balance of function vs. Aesthetic. How do you view the idea of the function of the ball as being 'hidden' for the user? Ie acting as the catalyst for interaction
- Did you place the ball within lost spaces?

- Did it make people enter?
- Do you think changing the colour/size/number of the ball would make a difference

Topic 5: The child vs. the adult

- Can you comment on the difference between the two in terms of interaction with the ball?

Topic 6: How do people usually hear about the ball?

- Do you ever ask how people came across the ball?

(c.) Marco Canevacci: Founder/Architect/Director of Plastique Fantastique. (Interview 4)

Biography:

"Established in Berlin in 1999, Plastique Fantastique has been influenced by the unique circumstances that made the city a laboratory for temporary spaces and has specialised in creating pneumatic installations as alternative, adaptable, low energy spaces for temporary and ephemeral activities. The transparent, lightweight and mobile shell structures relate to the notion of activating, creating and sharing public space and involving citizens in creative processes. They are in many ways the simplest of structures – a skin that separates but also connects. The result is a site specific installation that breathes new life into the city and makes the invisible visible."

Artist Biography Available from: www.plastique-fantastique.de/Plastique-Fantastique
Accessed: 15/11/2014

Aims:

- To gain professional opinions on the notions of playful interactivity with inflatable designs
- To understand the fundamentals of a successful catalysts in the urban realm
- To utilise guiding topics as well as structured questions for open ended discussion on the impact of inflatable structures.

Guiding questions:

Topic 1: Explaining the concept of the playful interactive experience and connecting it to the work of Plastique Fantastique

Topic 2: Discussion of Framework Principles

- Discussion of the DNA tube and other inflatables of the GUL in relation to framework principles
-

Topic 3: Interactions with inflatable spaces

- How do you observe increased social interactions around your designs
- Dialogue
- Visual
- Is there a knock on effect of interactions? Ie the more people there are the more people are drawn?
-

Topic 4: Appeal

- Do you think they appeal to all ages, cultures
- How does the element of play feature in your work?
- You say your works are urban catalyst, how are they?
-

Topic 5: Interactivity

- What interactive projects have you worked on?
- Do you consider works at their basic form as interactive?
- Your work reminds me of 'serious play' can you comment?

Topic 6: Defining the playful interactive experience

- (Explain definition thus far) Can you comment?

(d.) Theopisti Stylianou-Lambert: Photography Theorist (Interview 5)

Biography:
"Theopisti Stylianou-Lambert is an assistant professor in the Multimedia and Graphic Arts Department of the Cyprus University of Technology and the coordinator of the Visual Sociology and Museum Studies lab. She earned her PhD in Museum Studies from the University of Leicester (UK). She holds a Master's in Art Education from the Department of Visual Arts Studies at the University of Texas at Austin (USA) as well as a Master's in Advertising from the College of Communications at the University of Illinois at Urbana-Champaign (USA).She received several awards and scholarships such as a Fellowship in Museum Studies from the Smithsonian Institute (USA), an Arts and Humanities Research Council Award (UK), an A. G. Leventis Foundation Scholarship (France), a Kelly Fearing Endowed Scholarship in Art Education and Studio Art (USA), a M. K. Hage Endowed Scholarship in Fine Arts (USA) and a Fulbright Scholarship (USA).Stylianou-Lambert is a reviewer for the journals Visitor Studies, Tourism Management, Tourism Geographies and the Journal of the Knowledge Economy. She is also a member of the International Association of Photography and Theory (IAPT), Visitor Studies Association (VSA), International Visual Sociology Association (IVSA), Museum Association, UK (MA), International Committe for Museology (ICOFOM), International Council of Museums, Cyprus (ICOM), Forum UNESCO – University and Heritage and the Society of Cypriot Studies."
Cyprus University of Technology Faculty Profile, Available from:
https://www.cut.ac.cy/mga/staff/theopisti.stylianou/ Accessed: 30./05/2015

Note: Theopitsi Stylianou Lambert had previously viewed a presentation on the playful interactive experiences with the inflatable spaces in the proceedings of; Contemporary Museum and Gallery Education practices: Local Communities meet Global Narratives. Nicosia, Cyprus (22nd May, 2015). Entitled: Life inside-out an inflatable space: how artistic experiences can be diffused in a city through design and playfulness. After a short discussion of the themes of the research the interview began.

Aims:

- To understand the levels of photographic interactions observed
- To utilise guiding topics as well as structured questions for open ended discussion on the impact of photography.

Guiding questions:

Topic 1: The playful experience in relation to photography

- What is your view on the playful experience in relation to photographic interaction?
- Can you relate this to your research?

Topic 2: Reasons for photography:

- One future reason for photograph taking is the uploading to social media, what are your thoughts?

Topic 3: Opinions relating the framework for interaction analysis:

- Can you comment on the diagram for interaction analysis?
- I have identified that we can take a direct, secondary photographs as well as 'selfies' – are there other dimensions?
- How do you categorise the tool of photography?
- Further comments?

Appendix 3.4a: Focus Group Guiding Questions: Designer Feedback

Guiding questions

1. **Can you give your feedback on the framework for the creation of the playful interactive experience and how you utilised it?**
    - How do you believe it could be improved?
    - What difficulties were faced?

2. **Evaluation of the design process**
    - How did you find the overall process?
    - Can you comment on any successes and failures?

3. **Can you give feedback on the Implementation process?**
    - Comments toward the designs themselves
    - How did people react to them?
    - Did you recognise increased engagement with the spaces and between users of the spaces?
    - How else did people interact?

4. **Follow up on data collection methods**
    - Comments towards improvements
    - Any difficulties
    - Any gaps in research

5. **Any other opinions, conclusions or recommendations?**

Appendix 3.4b: Focus Group Guiding Questions: General Public – Pre Event

Guiding questions

1. **What is a public space?**
   - In your view what is a public space, how would you define it? What are its characteristic features?
   - Can you give examples of places that you consider as public spaces?
     - Ex: urban parks, gardens, green corridors, playgrounds, civic squares, seafront promenades, Pedestrian Street, market places, church yards, school yards, beach, woods, etc.
   - Do you think that outdoor cafés or Shopping Malls qualify as public spaces?

2. **How often and how do you use public space?**
   - How often do you go to public spaces? Time spent?
   - Usually, what type of activities are you doing in public spaces?
   - For what reasons are you going?
     - Pointers: motivation related to social interactions, or health reasons, sport, to enjoy the view, the aesthetic of the places, to walk the dog or play with your kids?
   - How often do you meet new people in a public setting? Do you feel that your public spaces provide catalysts for social interaction?

3. **What type of creative events would you like to be taken place in your cities?**
   - What type of creative event do you envision in your city
   - Have you experienced any in Cyprus or abroad
   - How would you define a creative event

4. **Is playfulness important for your use of public spaces?**
   - How do you interpret the concept of playfulness
   - How would you interact with a new creative structure in your city
   - Would technology and social media be part of your reflexes

5. **Perception of the castle area**
   - How many times have you been in the castle and when
   - How do you currently use the area
   - Are there currently public offerings in the area

Appendix 3.4b: Focus Group Guiding Questions: General Public: Post Event

Guiding questions

1. **Overall Opinions of the Playful Interactive Experiences**
    - What was the impact of the pathways to the bubble?
    - Feelings of the overall event?

2. **The perception of the sites post event**
    - How did you feel about the spaces post event?
    - What was the impact of the inflatables on the spaces?
    - Did you go to any of the other events?

3. **Interactions with the inflatables and others**
    - Was it important for people to interact during the set up process?
    - Was it important for the public to interact with the designers?
    - Did you interact with anyone you didn't know?

4. **Level of playfulness witnessed and experienced**
    - Was it a playful experience?
    - What type of play did you witness?
    - How did you play?

5. **Any other opinions**

Appendix 3.5: Questionnaire Survey General Consent Form

GENERAL CONSENT FORM

Research Title:
An investigation into playful interactive experiences within public space.

Research Aim(s):

Investigate the circulation and movement of users before and after the addition of a playful and interactive experience

Explore interactive game playing in public space in order to heighten user experience and interactions

Produce a design framework for designers to produce successful and useable spaces to entice users

Researcher(s):
Anna Louise Merry: De Montfort University PhD student
Tel: +357 96553750

Dear participant

This letter is to inform you about my project and your involvement in the hope that you will participate in a study as part of my PhD research into playful interactive experiences within public space at De Montfort University. This study will inform my project on the reactions of the public in relation to implemented interactive designs.

The questionnaire will be so that I can:

Gain knowledge from the public's perspective, by gaining an understanding of what the reactions and thoughts towards the design project. I also hope to learn more about the topic area and develop my research skills. Participation in this study is entirely voluntary. You may decide not to answer all of the questions and may also decide to withdraw from this study at any time by advising Anna Louise Merry.

If you request, the information you provide can be considered confidential, except that with your permission anonymised quotes may be used. If you request confidentiality, beyond anonymised quotes, information you provide will be treated only as a source of background research, alongside book and web-based research [and interviews with others]. If you request, your name or any other personal identifying information will not appear in the course project paper resulting from this study; neither will there be anything to identify your place of work or the business. Notes collected during this study will be retained for the duration of my PhD in a secure location and then destroyed. The information gained from this questionnaire will only be used for the above objectives; it will not be used for any other purpose and will not be recorded in excess of what is required. Even though I may present the study findings to my supervisors and colleagues, only members of the course team and I will have access to the data itself. There are no known or anticipated risks to you as a participant in this study. If you have any questions regarding this study or would like additional information please ask me (Anna Louise Merry). I can assure you that this study has been reviewed and approved by my project supervisor. Thank you for your assistance in this project.

Yours Sincerely,
Anna Louise Merry

Your signature on this form means that:

- You have read the information about the research
- You have been able to ask questions about this study
- You are satisfied with the answers to all of your questions
- You understand what the study is about and what you will be doing
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.

If you sign this form, you do not give up your legal rights, and do not release the researchers from their professional responsibilities.

I have read the information presented in the information letter about a study being conducted by Anna Merry for PhD research at De Montfort University. I have had the opportunity to ask any questions related to this study, and received satisfactory answers to my questions, and any additional details I wanted. I am also aware that excerpts from the questionnaire may be included in the course project paper to come from this research. Quotations will / will not be kept anonymous. I do/do not give permission for my identity to be revealed in research reports.

I was informed that I may withdraw my consent at any time by advising the student researcher. With full knowledge of all foregoing, I agree to participate in this study.

You **may / may not** disclose my personal details.

I am **above** / **below** the age of 18.

……..
Name

…….. **……**
Signature **Date**

Appendix 3.6 (a) Public Questionnaire Survey for 'Let's Intervene'

1.Name (Optional) _____

2. Occupation (Optional) _____

3. Age

Under 16□ 16-22□ 23-30□ 31-45□ 45-60□ 60+□

4. Have you ever experienced an interactive space or art installation before?

Yes □ No □ D/K □

5. If yes what and where was the space that you have experienced?

_____

_____

6. In today's technology era do you believe adding technology into a public space would be a benefit?

Yes □ No □ D/K □

7. Do you believe that the element of fun and interaction within a space would be an added benefit?

Yes □ No □ D/K □

8. Do you believe art especially is important in a public area?

Yes □ No □

9. Over time an area/space can become boring. If a space was frequently transformed would this make a space more appealing?

Yes □ No □ D/K □

10. Which design of the implemented designs did you interact with?

Stairs □ Elastics □ Both □ Neither □

11. Which Installation did you find most Interesting?

Stairs □ Elastics □

12. Which Installation did you find most Interactive?

Stairs □ Elastics □

13. Did the Installations have a positive effect on your day?

Yes □ No □

14. Do you believe the designs had a positive effect on the general mood of the public?

Yes □ No □ D/K □

15. Would you like any of the designs to remain permanently?

Yes □ No □ D/K □

16. Please feel free to add any additional comments you may have after completing the questionnaire.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for your time and participation.
Anna Louise Merry

Appendix 3.6 (b) Public Questionnaire Survey for 'GUL' in Collaboration with Rene Carraz (Head of Research: Urban Gorillas)

***Section 1 Impact* - of the Bubble**

1. How did you hear about the inflatable? **MULTIPLE RESPONSES POSSIBLE**

TV and/or Press	1
Social Media	2
The events/activities	3
Invitation	4
Word of Mouth	5
Tape installation	6
Surprise Encounter	7
Other	8
DK/ NA	9

2. To what degree did the inflatable attract you to enter the space? Would you say **READ OUT AND/OR SHOW**

Not at all	*A little*	*Somewhat*	*Much*	*Very much*	*DK/ NA*
1	*2*	*3*	*4*	*5*	*9*

Section 2: Level of *Interaction*

3. Did the inflatable provoke any discussion?

Yes	1	GO TO Q 4
No	2	GO TO Q 5
DK/ NA	3	

4. Were these discussions with…?

	Yes	No
Friends/Family	1	2
Strangers, passers-by	1	2

5. Did you take any photos or videos of the events?

Yes	1	GO TO Q 6
No	2	GO TO Q 8
DK/ NA	3	

6. What did you photograph or videotape? **MULTIPLE RESPONSES POSSIBLE**

Photographed the inflatable	1
Photographed the events	2
Photographed others (friends/family/strangers) within/using the inflatable	3
Photographed others (friends/family/strangers) within/using the events	4
Took a photo of myself (selfie)	5
Took a video of the inflatable	6
Took a video of the events	7
Took a video of others (friends/family/strangers) using the inflatable	8
Took a video of others (friends/family/strangers) using the events	9
Took a video of myself	10
Other	11
DK/ NA	12

7. Will you upload any of these images/video to social media sites?

Yes	1
No	2
DK/ NA	9

***Section 3: Perception* – of the space**

8. In the last twelve months, how many times have you entered the castle grounds?

……. times

9. After your experience today have your thoughts toward the space changed? Would you say that they…**READ OUT AND/OR SHOW**

Substantially worsened	*Worsened a bit*	*Stayed the same*	*Improved a bit*	*Improved substantially*	*DK/ NA*
1	*2*	*3*	*4*	*5*	*9*

Section 4: Level of *Success*

10. On a **5**-point scale where **1** stands for "very negative impact", **5** stands for "very positive impact" and **3** in the middle stands for 'no impact', how would you assess the impact that your experience of the Inflatable has had on your day?

Very negative impact	*Negative impact*	No impact'	*Positive impact*	Very positive impact	*DK/ NA*
1	*2*	*3*	*4*	*5*	*9*

11. On a **5**-point scale where one stands for 'I totally disagree' and **5** stands for 'I totally agree', to what degree do you agree with the following statements. **READ AND/OR SHOW**

RANDOMISE ORDER	Totally disagree	Somewhat disagree	Neither agree, nor disagree	Somewhat agree	Totally agree	DK/NA
I would like to see more playful designs within the city	1	2	3	4	5	9
After today's visit, my perception of how public spaces can be used has changed	1	2	3	4	5	9
After today's visit, I am considering visiting more public spaces in the city	1	2	3	4	5	9
I would pay to see creative events in public spaces	1	2	3	4	5	9
Municipalities need to provide us more public spaces	1	2	3	4	5	9

12. Did you play today?

(Respondent asks what do you mean by play: By play we mean anything that you did for your entertainment and fun

Yes	1
No	2
DK/ NA	9

Personal Information

1.0 Sex:
DO NOT ASK.

Male	1
Female	2

1.1 Age

……. years

1.2 What is the highest level of education you have completed:

Up to elementary	1
Up to lower secondary	2
Up to secondary	3
College/ University Diploma/ Undergraduate	4
University Postgraduate	5

1.3 How did you come here

Car	1
Public transport	2
Foot	3
Bicycle	4
Other (specify)	5

1.4 Have you lived abroad for a continuous period of over six months at some point in your life?

Yes	1
No	2
DK/ NA	3

1.5 What is your nationality? **CODE INTO APPROPRIATE CATEGORY**

Cypriot	1
Other EU	2
Other Europe	3
Asia	4
Africa	5
Americas	6
Other	7
Refusal	8

This Poster (**POINT TO IT**) is to inform you about the project. Upon completing this questionnaire do you agree for this information to be used for the purpose of academic research? ONLY FOR LIMASSOL AND NICOSIA

Yes	1
No	2
DK/ NA	9

Appendix 3.6 (c) Public Questionnaire Survey for 'GUL' with Urban Gorillas in Collaboration with Rene Carraz (Head of Research: Urban Gorillas) Translated by: Stavros Erifeji and Anna Merry, further amended by Urban Gorillas and Focus Group Feedback

***Impact* - of the Bubble**

1. Πώς μάθατε για το φουσκωτό; **ΠΟΛΛΑΠΛΕΣ ΠΙΘΑΝΕΣ ΑΠΑΝΤΗΣΕΙΣ**

Τηλεόραση ή / και Τύπος	1
Μέσα Κοινωνικής Δικτύωσης	2
Εκδηλώσεις/ Δραστηριότητες	3
Από πρόσκληση	4
Από στόμα σε στόμα	5
Από τις χρωματιστές σημάνσεις στον πεζόδρομο	6
Τυχαία	7
Άλλο (προσδιορίσε……)	8
ΔΞ/ ΔΑ	9

2. Σε ποίο βαθμό το φουσκωτό τράβηξε την προσοχή σας για να μπείτε στο χώρο ; Θα λέγατε... **ΔΙΑΒΑΣΕ ΤΟ ΔΥΝΑΤΑ/ Η ΚΑΙ ΔΕΙΞΤΟ**
Σε ποίο βαθμό το συγκεκριμένο σκηνικό τράβηξε την προσοχή σας για να μπείτε στο χώρο ; Θα λέγατε... **ΔΙΑΒΑΣΕ ΤΟ ΔΥΝΑΤΑ/ Η ΚΑΙ ΔΕΙΞΤΟ,**

Καθόλου	*Λίγο*	*Κάπως*	*Πολύ*	*Πάρα πολύ*	*ΔΞ/ ΔΑ*
1	*2*	*3*	*4*	*5*	*9*

Level of *Interaction*

4. Μήπως το φουσκωτό προκάλεσε γύρω σας συζητήσεις;

Ναι	1	GO TO Q 4
Όχι	2	GO TO Q 5
ΔΞ/ΔΑ	3	

4. Σε περίπτωση που προκάλεσε συζητήσεις ήταν με...;

	Ναι	Όχι
Φίλους / Οικογένεια	1	2
Ξένους, περαστικούς	1	2

5. Τραβήξατε καθόλου φωτογραφίες ή βίντεο από την σημερινή εκδήλωση;

Ναι	1	GO TO Q 7
Όχι	2	GO TO Q 9
ΔΞ/ΔΑ	3	

6. Τι φωτογραφίσατε ή βιντεογραφήσατε; **ΠΟΛΛΑΠΛΕΣ ΠΙΘΑΝΕΣ ΑΠΑΝΤΗΣΕΙΣ**

Φωτογράφισα το φουσκωτό	1
Φωτογράφισα κατά την διάρκεια των εκδηλώσεων	2
Φωτογράφισα (φίλους/οικογένεια/ περαστικούς) μέσα στο φουσκωτό	3
Φωτογράφισα (φίλους/οικογένεια/ περαστικούς) κατά την διάρκεια των εκδηλώσεων	4
Φωτογράφισα τον εαυτού μου	5
Βιντεογράφησα το φουσκωτό	6
Βιντεογράφησα τις εκδηλώσεις	7
Βιντεογράφησα (φίλους/οικογένεια /αγνώστους) με το φουσκωτό	8
Βιντεογράφησα (φίλους/οικογένεια /αγνώστους) κατά την διάρκεια των εκδηλώσεων	9
Βιντεογράφησα τον εαυτό μου	10
Άλλο	11
ΔΞ/ΔΑ	12

7. Πρόκειται να ανεβάσετε κάποιες από αυτές τις εικόνες/ ή βίντεο στα μέσα κοινωνικής δικτύωσης;

Ναι	1
Όχι	2
ΔΞ/ΔΑ	9

***Perception* – of the space**

8. Τους τελευταίους 12 μήνες, πόσες φορές μπήκες το κάστρο;

……. φορές

9. Μετά την σημερινή σας εμπειρία έχει αλλάξει η αντίληψή που είχατε για το χώρο; Θα λέγατε ότι έχει ... **ΔΙΑΒΑΣΕ ΤΟ ΔΥΝΑΤΑ/ Η ΚΑΙ ΔΕΙΞΤΟ**

Ουσιαστικά χειροτερέψει	*Χειροτερέψει λίγο*	*Έμεινε η ίδια*	*Βελτιώθηκε λίγο*	*Βελτιώθηκε σημαντικά*	ΔΞ/ΔΑ
1	*2*	*3*	*4*	*5*	*9*

Level of *Success*

10. Με κλίμακα το **5**, όπου **1** σημαίνει «πολύ αρνητικές επιπτώσεις», **5** «πολύ θετικές επιπτώσεις" και **3** «καμία επίπτωση», πως θα χαρακτήριζες την εμπειρία σου από το φουσκωτό σήμερα;

Πολύ αρνητική επίπτωση	*Αρνητική επίπτωση*	*Καμία επίπτωση*	*Θετική επίπτωση*	*Πολύ θετική επίπτωση*	ΔΞ/ΔΑ
1	*2*	*3*	*4*	*5*	*9*

11. Με κλίμακα το **5**, όπου **1** σημαίνει «διαφωνώ απόλυτα» και **5** «Συμφωνώ απόλυτα», σε ποιο βαθμό συμφωνείτε με τις παρακάτω δηλώσεις. **ΔΙΑΒΑΣΕ ΤΟ ΔΥΝΑΤΑ/ Η ΚΑΙ ΔΕΙΞΤΟ ΑΝ ΧΡΕΙΑΣΤΕΙ**

ΤΥΧΑΙΑ ΣΕΙΡΑ	Διαφωνώ απόλυτα	Διαφωνώ κατά κάποιο τρόπο	Ούτε διαφωνώ, ούτε συμφωνώ	Συμφωνώ κατά κάποιο τρόπο	Συμφωνώ απόλυτα	ΔΞ/ΔΑ
Θα ήθελα να βλέπω πιο συχνά ενδιαφέρον κατασκευές στην πόλη μου.	1	2	3	4	5	9
Μετά τη σημερινή επίσκεψη η αντίληψή μου για το πώς οι δημόσιοι χώροι μπορούν να χρησιμοποιηθούν έχει αλλάξει.	1	2	3	4	5	9
Μετά τη σημερινή επίσκεψη θα πηγαίνω συχνότερα στους δημόσιους χώρους της πόλης μου.	1	2	3	4	5	9
Μετά τη σημερινή επίσκεψη θα πλήρωνα για να δω πρωτότυπες εκδηλώσεις σε δημόσιους χώρους.	1	2	3	4	5	9
Οι Δήμοι θα ήταν καλό να μας εξασφαλίζουν με περισσότερους δημόσιους χώρους.	1	2	3	4	5	9

12. Έχετε παίξει καθόλου σήμερα; (Αν σε ρωτήσουν τι εννοείς με αυτό : Με το αν Έχετε παίξει καθόλου σήμερα εννοούμε κάτι που έκανες για την ψυχαγωγία και την διασκέδαση σου)

Ναι	1
Όχι	2
ΔΞ/ΔΑ	9

Προσωπικές Πληροφορίες

1.0 Φύλο :ΜΗΝ ΡΩΤΑΣ.

Άνδρας	1
Γυναίκα	2

1.1Ηλικία

..... χρονών

1.2Ανώτερο επίπεδο μόρφωσης:

Μέχρι δημοτικό	1
Μέχρι γυμνάσιο	2
Μέχρι Λύκειο	3
Κολέγιο/ Πανεπιστήμιο Δίπλωμα/ Πτυχίο	4
Πανεπιστήμιο / Μεταπτυχιακό	5

1.3 Πώς ήρθατε στην εκδήλωση;

Αυτοκίνητο	1
Μέσα Δημόσιας Μεταφοράς	2
Με τα πόδια	3
Με το ποδήλατο	4
Άλλο	5

1.4 Έχετε ζήσει στο εξωτερικό για περισσότερο από 6 μήνες εν συνεχεία σε κάποια φάση της ζωής σας;

Ναι	1
Όχι	2
ΔΞ/ ΔΑ	3

1.5 Ποια είναι η υπηκοότητα σας; **ΚΩΔΙΚΟΠΟΙΗΣΤΕ ΣΤΗΝ ΟΡΘΗ ΚΑΤΗΓΟΡΙΑ**

Κύπριος	1
Άλλη χώρα ΕΕ	2
Άλλο Ευρώπη	3
Ασία	4
Αφρική	5
Αμερική	6
Άλλα	7
Άρνηση	8

Appendix 3.7: General Consent Poster for GUL Questionnaire

GENERAL CONSENT

dmu.ac.uk
DE MONTFORT UNIVERSITY
LEICESTER

Research Title:
An investigation into playful interactive experiences within public space.

Research Aim(s):

Investigate the circulation and movement of users before and after the addition of a playful and interactive experience

Explore interactive game playing in public space in order to heighten user experience and interactions

Produce a design framework for designers to produce successful and useable spaces to entice users

Researcher(s):
Anna Louise Merry: De Montfort University PhD student
Tel: +357 96553750

Dear participant

This is to inform you about my project and your involvement in the hope that you will participate in a study as part of my PhD research into playful interactive experiences within public space at De Montfort University. This study will inform my project on the reactions of the public in relation to implemented interactive designs.

The questionnaire will be so that I can:

Gain knowledge from the public's perspective, by gaining an understanding of what the reactions and thoughts towards the design project. I also hope to learn more about the topic area and develop my research skills. Participation in this study is entirely voluntary. You may decide not to answer all of the questions and may also decide to withdraw from this study at any time by advising Anna Louise Merry.

If you request, the information you provide can be considered confidential, except that with your permission anonymised quotes may be used. If you request confidentiality, beyond anonymised quotes, information you provide will be treated only as a source of background research, alongside book and web-based research [and interviews with others]. If you request, your name or any other personal identifying information will not appear in the course project paper resulting from this study; neither will there be anything to identify your place of work or the business. Notes collected during this study will be retained for the duration of my PhD in a secure location and then destroyed. The information gained from this questionnaire will only be used for the above objectives; it will not be used for any other purpose and will not be recorded in excess of what is required. Even though I may present the study findings to my supervisors and colleagues, only members of the course team and I will have access to the data itself. There are no known or anticipated risks to you as a participant in this study. If you have any questions regarding this study or would like additional information please ask me (Anna Louise Merry). I can assure you that this study has been reviewed and approved by my project supervisor. Thank you for your assistance in this project.

Yours Sincerely,
Anna Louise Merry

Your acceptance means that:

- You have read the information about the research
- You have been able to ask questions about this study
- You are satisfied with the answers to all of your questions
- You understand what the study is about and what you will be doing
- You understand that you are free to withdraw from the study at any time, without having to give a reason, and that doing so will not affect you now or in the future.

If you accept this form, you do not give up your legal rights, and do not release the researchers from their professional responsibilities.

By accepting the questionnaire results to be used for academic research you have read the information presented in the information letter about a study being conducted by Anna Merry for PhD research at De Montfort University. You have had the opportunity to ask any questions related to this study, and received satisfactory answers to the questions, and any additional details you have wanted.

You were informed that you may withdraw consent at any time by advising the student researcher (Details above). With full knowledge of all foregoing, you agree to participate in this study.

Appendix 3.8: General Consent Poster for Observational Studies

GENERAL CONSENT

dmu.ac.uk DE MONTFORT UNIVERSITY LEICESTER

Research Title:
An investigation into playful interactive experiences within public space.

Research Aim(s):

Investigate the circulation and movement of users before and after the addition of a playful and interactive experience

Explore interactive game playing in public space in order to heighten user experience and interactions

Produce a design framework for designers to produce successful and useable spaces to entice users

Researcher(s):
Anna Louise Merry: De Montfort University PhD student
Tel: +357 96553750

Dear participant

This is to inform you about my project and your involvement in the hope that you will participate in a study as part of my PhD research into playful interactive experiences within public space at De Montfort University. This study will inform my project on the reactions of the public in relation to implemented interactive designs.

Observation will be conducted so that I can:

Gain knowledge from the circulation and reactions of the public to spatial changes, by gaining an understanding of what the reactions occur towards the design project. I also hope to learn more about the topic area and develop my research skills. You may at any time request to learn more about this project by contacting Anna Louise Merry.

If you request, the information gained can be considered confidential. Notes collected during this study will be retained for the duration of my PhD in a secure location and then destroyed. The information gained will only be used for the above objectives; it will not be used for any other purpose and will not be recorded in excess of what is required. Even though I may present the study findings to my supervisors and colleagues, only members of the course team and I will have access to the data itself. There are no known or anticipated risks to you as a participant in this study. If you have any questions regarding this study or would like additional information please ask me (Anna Louise Merry). I can assure you that this study has been reviewed and approved by my project supervisor. Thank you for your assistance in this project.

Yours Sincerely,
Anna Louise Merry

Appendix 3.9: Observational Tick Chart (Let's Intervene)

Gender			Age						Individual Interaction					Multiple Interaction					Follow on Actions			
Number	Male	Female	Under 16	16-22	23-30	30-45	45-60	60 +	Direct	Subtle	Viewing and Reacting	Ambient	Unawareness	Direct	Subtle	Viewing and Reacting	Ambient	Unawareness	Photo Opportunity	Street Dialogue between Friends	Street Dialogue between Strangers	Other
1																						
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						
16																						
17																						
18																						
19																						
20																						
21																						
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29																						
30																						
31																						
32																						
33																						
34																						
35																						

Name(s) _____Signature(s)_____

Date _____ Time_____ Place _____

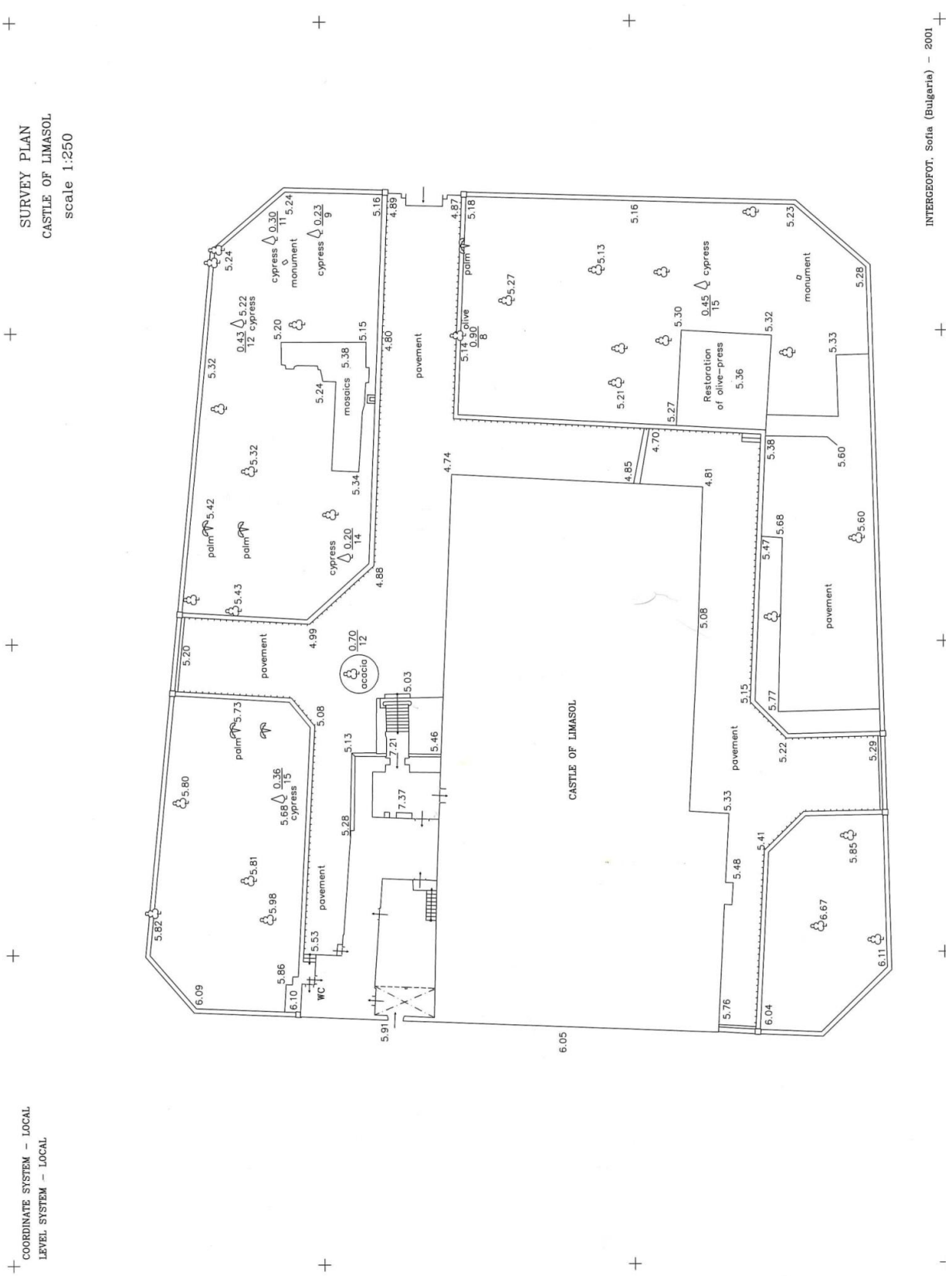
Appendix: 3.10 Behavioural Mapping Chart (GUL)

	Gender		Age							User Action			
Participant Number	Male	Female	Toddler	Child	Teenager	Young Adult	Adult	Mature Adult	Senior Citizen	YES	NO	IF YES FOR HOW LONG?	Action Taken
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													

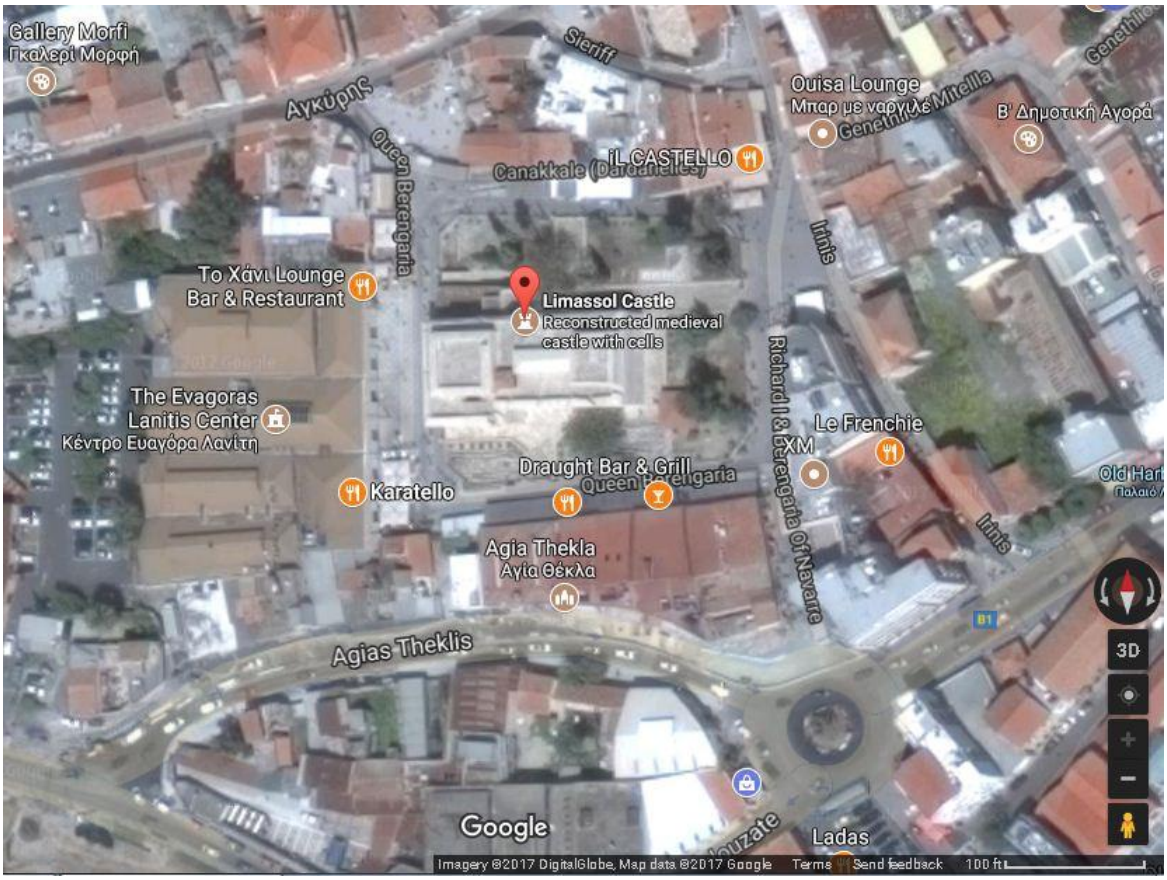
Name(s) _____Signature(s) _____

Date _____Time_____ Place _____ Sheet Number_____

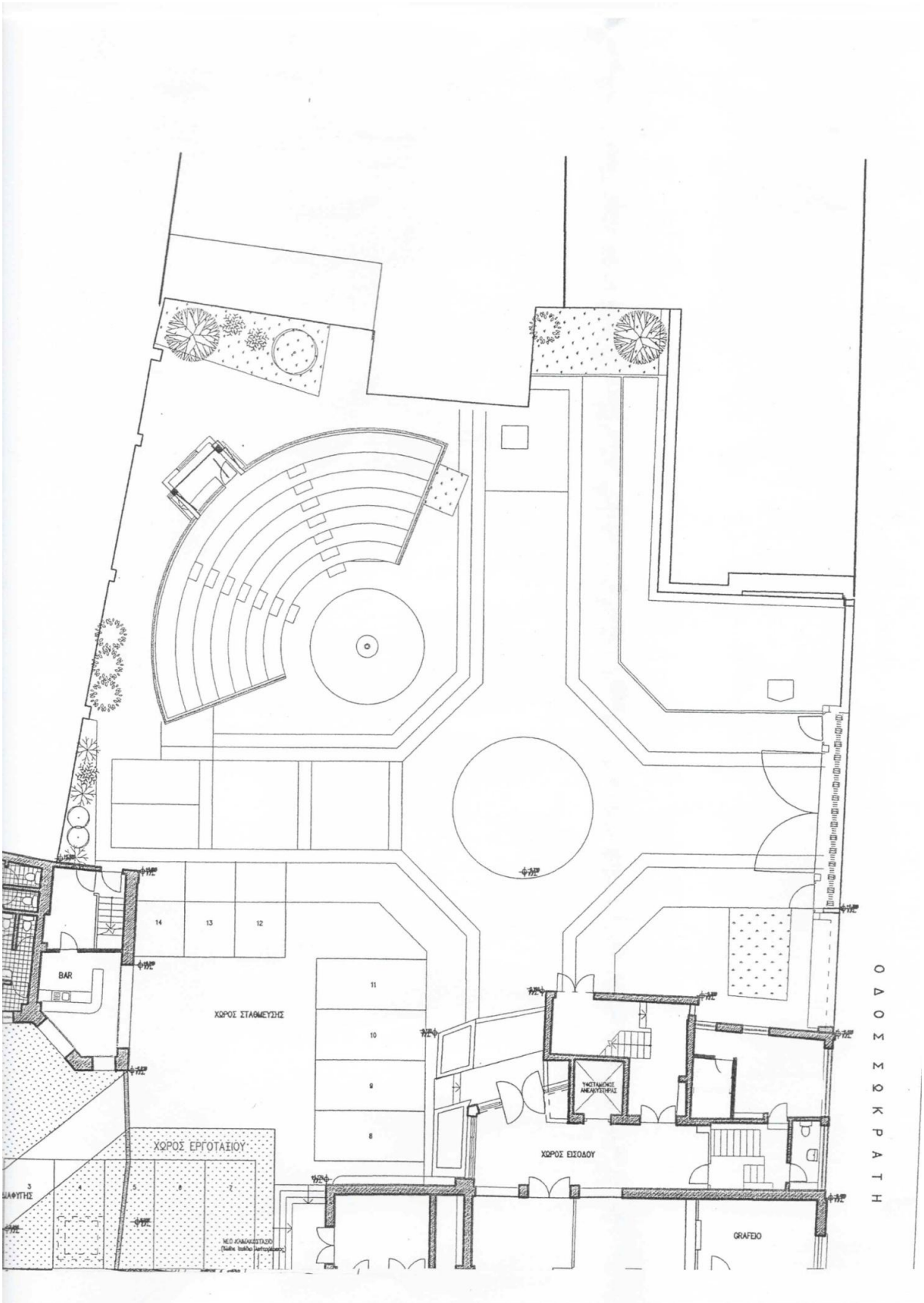
Appendix: 3.11: Location Maps, a. Limassol Castle

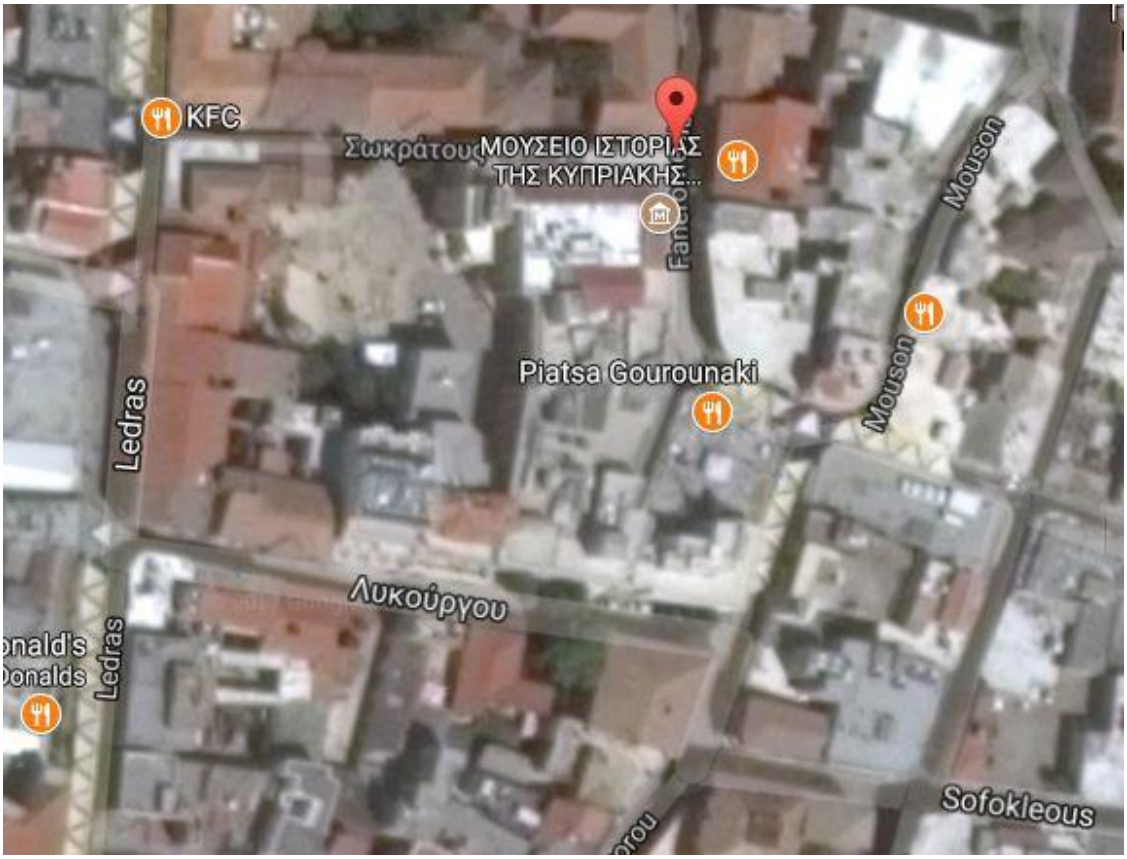


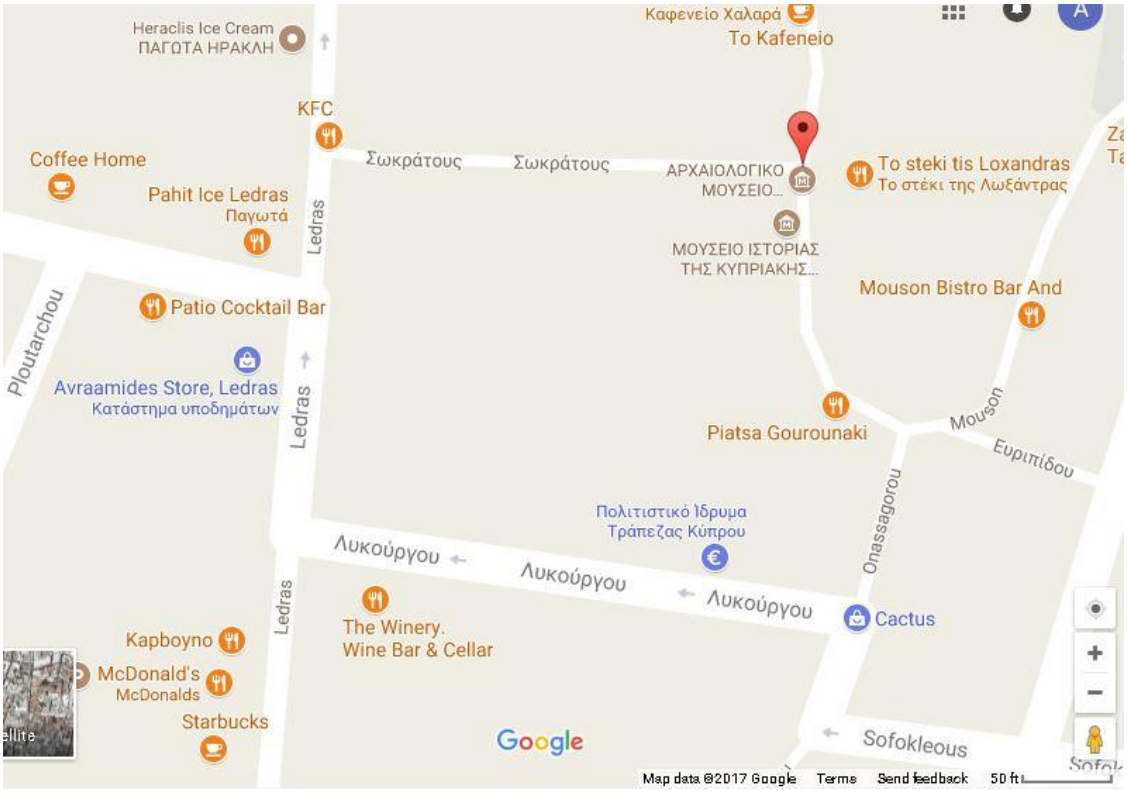
The Medieval Castle of Limassol Maps



Appendix: 3.11 Location Maps, b. Bank of Cyprus Cultural Foundation, Nicosia




KFC
Σωκράτους
ΜΟΥΣΕΙΟ ΙΣΤΟΡΙΑΣ ΤΗΣ ΚΥΠΡΙΑΚΗΣ...
Mouson
Piatsa Gourounaki
Ledras
Λυκούργου
Sofokleous


Heraclis Ice Cream
ΠΑΓΩΤΑ ΗΡΑΚΛΗ
Καφενείο Χαλαρά
Το Kafeneio
KFC
Coffee Home
Σωκράτους
Σωκράτους
ΑΡΧΑΙΟΛΟΓΙΚΟ ΜΟΥΣΕΙΟ...
To steki tis Loxandras
Το στέκι της Λωξάντρας
Pahit Ice Ledras
Παγωτά
Ledras
ΜΟΥΣΕΙΟ ΙΣΤΟΡΙΑΣ ΤΗΣ ΚΥΠΡΙΑΚΗΣ...
Mouson Bistro Bar And
Patio Cocktail Bar
Ploutarchou
Avraamides Store, Ledras
Κατάστημα υποδημάτων
Piatsa Gourounaki
Mouson
Ευριπίδου
Πολιτιστικό Ίδρυμα Τράπεζας Κύπρου
Onassagorou
Λυκούργου
Λυκούργου
Λυκούργου
Cactus
The Winery.
Wine Bar & Cellar
Kapboyno
McDonald's
McDonalds
Starbucks
Google
Sofokleous
Map data ©2017 Google
Terms
Send feedback
50 ft

Appendix 4.1: Interview 1: Antonis Mitsingas – Social Psychologist – Lecturer – Frederick University

Date: 15th January 2013, 11am
Place: Frederick University, Limassol Campus, Cyprus

Introduction and the discussion of the concept of play

As soon as you talk to me about play, what comes into my mind is my childhood and observing myself, what do I mean by observing myself? I was testing myself in being in a close relationship with my dog Tarzan. I was doing something and he was responding. This must have been when I was between 4 – 10 years old he was taking me to school and picking me up.

At the same time I can refer to myself as playing with my 4 brothers, the 2 Germans and 2 Greeks in a role play situation. For example a fighting situation, but still taking care that we don't hurt each other, but it was still considered physical play and learning ourselves. Later on between 8 – 10 I would call at other people in the neighbourhood to play. We all had small houses and children could come and go between all nearby houses. Calling each other to play, but this play was not always games sometimes it was to meet and talk and exchange and conversation, this is also part of play. Socialisation as a child is play eg To tell your parents I'm going to my friends to play, meant to socialise. Of course we would meet and play in the traditional sense.

Why do children need to play?

Play today when looking down at children in the yard playing the children want to experience the outcome of their actions. They act and then they look for a response. At the age of 5 – 6 I remember a child would take a fish – the fish would stop – and then they said the tale stopped moving – The child was told that if they want it to move again it has to go back in the water. Children observe an effect in an environment.

By thinking about play, we usually think there is a toy involved but children play with the world around – they taste, touch etc. We have a tendency to experience our environment and get a feedback from our environment and nature. So if we go back to age 0 we are interested in verifying our existence, our biological existence. We look at stimulated feelings by interacting with our environment. Until 6- 7 we find items which stimulate play – for example a set of keys to an adult are a functional item, to a child they are a 'toy' they make noise, they can listen, look at the colours, even throw them to see if it will break.

Another example is playing at the beach with parents, sand castles are a typical child play. Many children decide to dig a hole to put the water from the sea. Children believe that they can take out the whole sea and put it in their hole. Play gives the chance to realise reality, and realise their own limitations.

So what is the difference between child and adult play?

The difference between us and children is that they experience and learn the world around.

After the age of 25 we do experience the environment – we do test – but not necessarily through play – it depends on our mood to weather we play.

For example when people are in love they like to play

Later at an age of between 40-60 – it is questionable if we pretend that we want to stimulate children to play – or if we really want to play? This is linked to intergenerational play, how grandparents may use children as an excuse – and an excuse to question ourselves.

From real play – we have a play of words and language and jokes – is it a play or reality – or a natural was of exchanging ideas – jokes are considered a type of play, but it is commonly said that there is always a truth behind a joke.
My feeling is that when we are in a good mood, we like to play and play with children – we remove ourselves and escape the world through play
Sports become play as we get older in the form of a the hobby as it is a socially acceptable form of play at a socially accepted level. For example many take up golf – which is seen as a game for rich.

What do you think socialising is today? Has it changed since technology has been introduced?
We are spending more and more time in technology devices and technological games, it is everywhere. We see that the younger are interacting more with technology where as the older generation not as much.

How do you think technology is affecting children today?
Technology changes a child from group member to an individual. If we look at 100 years ago children were forced into the group 10-12 years old girls would take care of brothers sister, they were in the group. It was not a perfect time, they were becoming isolated maybe from their peers but they were still in social groups. What technological devices do to children is creating a transaction between the individual and the game, but isolates them from the group to the individual. It is an isolation tool.

How do you predict this will be affected in the future?
If we extend this to a prediction they will go into another situation. At one point maybe 100 years they will realise the need to use technology less and go back to basics.

One view is that adult play is an escape from our world – what do you think of this in relationship to Huzinga's theories?
This is true we need this escape; it gives us an opportunity to forget. A basic example may be taking a walk at the beach; this walk for some may be play. When we experience a simple walk we feel relaxed, for example after your experience of play and escape we realise we should not stress or worry as much.

Appendix 4.2: Interview 2: Kurt Perschke, Artist and creator of the Red Ball Project.

Date: 20th January 2013, 5.30pm
Place: via Skype contact

Can you explain the aims of the project?
It's quite important to me that the project performs as a performance over time in multiple cities - What the sites are doing for the project itself – multiple artistic opportunities, but in the long run this promotes a new dimension for the project, this is the audience who are constantly exploring the ball and being surprised. The people begin to follow the piece; the movement of the piece through the multiple cities is both for the artistic project and for the people themselves

Is the domino effect of the more attraction of people the more that begin to interact?
Yes there is a lot here, but to put it simply the project builds audiences throughout its placement. As I have noticed this over time, for each new city this is reflected back within the site selection. Often there is a site which I would like to use, but maybe will not invite a huge amount of people on its own, so I will leave this site till later so the experience has had the chance to build momentum. Sometimes it is not always out of the way, for example a place which other elements have built around over time so it's always existed but maybe forgotten... Placed it in a space which is in front of a very large audience and it gave way to the public noticing a lost space within their city. A lot of people will say things like 'Ah I forgot this place existed.' So for me the way the project moves and works through the city is for the people, it allows us to bring people or make them take notice of places they may never have been before, or to forgotten spaces in their city.

Talking in terms of the categories of interaction:
People are - Physical – conversational – photographic – part of the way that the project operates psychologically is how it moves through cultures, it's not ostracising, it's not a traditional form of public art, it doesn't have a specific message that it's trying to send to an audience. It operates as an ***invitational.*** For me what is operating is '***play permission'*** to the public. Then it is about how they respond to this permission – do they feel safe to react – in some cultures, kids want to react and parents pull them away – ***it provides opportunity*** – but still leaves ***user choice*** at the end of the day. (My conclusion – we cannot force interaction)

You mentioned Play – How do you define Play?
What is interesting about that question is that often we think of play as physical as opposed to intellectual. We tend to create a hierarchy. When I talk to the press then tend to think that when people are being physical with the work that I will be offended, and they often assume that the physical reaction should be lower than the intellectual reaction. So for me, and what the piece has taught me, all these reactions operate on the same level. None are lesser, but for an adult the physical may be more extreme, it allows a heightened permission that purely intellectual reaction. To be playful as an adult in public, people are observes and question this.

Has the element of the ball and its promotion of the heightened experience, given feedback from the municipalities, to do with the chance of people's behaviour. For example safety.

This has absolutely happened; at times I have very deliberately used the piece to leverage a different kind of behaviour. 1 example – Perth – downtown it was a outdoor business plaza – water feature – businessman – it's very hot – site was in the water – I thought we would be able to get people in the water – the building said no1 can go into the water – we did this late in the project – a few families got into the water – the building didn't stop them and the piece permitted them to do this and in this sense I was inviting a behaviour which was not normally ***permissible***. Creating that opportunity

Sometimes it is the other way around – it may not be permissible – eg – abu daubi – it was a big tour – we didn't have permission – later we found out that there was uproar – tobacco is legal – they were worried about advertisement. The audience in a city with a small art base – ***people were open without needing a huge layer of artistic context***

What level of preparation do you do before a project?
I do a site visit 6 months before once or twice – take as long as a project eg 10 days on foot with s/b – this is when the piece is made – its like a permanent art model.

What do you think about permanent public art compared with the temporary like yours?
One of the things that happens with these works, in the creation of permanent works – art work is of it time – the origins of public art are monument. They were never supposed to go away. But when we used this model of contemporary art works in public space, we didn't consider this. *Temporary* art evolves what people want to see changes. The difficulty is that we have to acknowledge that most works will have a moment that ends. This is different in every country – the process of creating public art, especially to my knowledge in the US has since to be driven by artistic and creative means. It's a process which is too ownerist, it doesn't always render to best work that can be made. For me personally working ***temporarily*** it is the best work that I can make, it suits our cultural moment – I feel the way people culture consumption today is temporary it's based on interaction and I'm interested that red ball creates something ***short and intense*** and then it ends.

Forgotten Spaces – How do you deal with forgotten monuments?
Buckminster fuller – forgotten landmark many people had not been there since the expo – biosphere is now a monument... going to shut it down because they don't know what to do with it...

Problem was – the project is free-but the museum isn't – had to convince them to make it free... got more press in 1 day than in 10 years – the space is so iconic, you need to program to it and save it through these types of events. This is something unique that needs to be kept alive.

How long does it last in each space?
Usually 1 day – works best as a 10 day events **mobile**

What do you see different between adult and child interaction?
Permission – adult worries about how they will be viewed and have to give themselves permission – but the child hasn't developed that yet. I don't think that it is right for adults to be like children, the issue is adults should not forget how to play. In Barcelona we were filming and a guy business man with a briefcase, reached behind his back to touch the piece – it is as if he had the desire but didn't feel like he was able to act openly. Yet he still acted. This is the ? that exists for me. So often people feel like they cannot express. In Asian culture it's much more permissible to be enthusiastic and be a fan, that the physical. Through

photography – part of what the photo gives you is distance – more engaged visually rather than verbally. Whereas in England everyone gives themselves permission to talk to each other.

In terms of stranger/friends acquaintances do you notice a heightened sociability of strangers?

The project works in the way as the ball becoming a catalyst – why is it there? Where is it going? Can you take a photo etc – heightened sociability? I often describe the project as not being the ball – it is the zone of interaction which it creates and the space it creates, the other thing that is enabled is the followers who engage with other fans and move throughout the week – then those fans talk to others and they explain the project to others.

What would happen if the ball changed colour or changed colour etc?

A museum in Japan wanted 5 balls... The singularity is important and becomes part of the narrative. Then they find out it is the same piece as seen in other countries – this brings us back to the idea of sculpture. Forget the plastic – I believe in the physical material where the history is embodied in the piece, like a historical narrative. ***Mobile*** The original sketch was red so I would not change it. It's a colour of energy and I am not really interested in another piece.

Appendix 4.3: Design Analysis

Project: (a.) Daily Tous Les Jours, Musée des possible, Montreal, 2010.

Does the Project Encompass...	Answers
Creation	Participants are provided with the pleasure to express their views in a creative manner whilst additionally being able to feel a pleasure of shaping the overall design experience.
Exploration	The participant is able to explore the site of the design as well as the views of others thus providing the exploration of discovery.
Discovery	Participants are able to understand the views of others whilst at the same time they are able to discover their own views through a creative process.
Difficulty/Challenge	There is no specific skill set associated with the design interaction or intellectual level of understanding.
Competition	Likewise to difficulty/challenge there is no defined goal or competition associated with the interactive components.
Danger	There is no feeling of danger or risk association with the work. Additionally there is no sense of unease or threat to character.
Captivation	The installation does not intend to hold 'control' over the participant; neither does it provoke a unconscious interaction or control over their actions.
Sensation	Sensation is not viewed as an obvious trait of the work.
Sympathy	Sympathy is not viewed as an obvious trait of the work.
Stimulation	Stimulation is perceived as the user being prompted to put forward their views on public space in an unconventional way.
Fantasy	The work is viewed as a fantasy piece, it is an out of the ordinary experience of fun for the passer-by.
Camaraderie	Camaraderie suggests a sense of fellowship, the nature of being able to combine ideas and discover the views of others promotes a sensation of social interaction in an alternative way.
Subversion	The notion of subversion is to break rules or twisting a meaning. The work does not promote users to create interactions which may be frowned upon.
Incentive	The project requires direct interaction with the participant, the whimsical notion of the balloons promotes incentive to discover and in turn interact.
Transfer	Transfer of thoughts to others is immediately apparent. Firstly to other participants and secondly to local authorities.
Accessibility	The placement of the design is implemented into an accessible site and the balloons promote familiarity.
Play	Play is hidden in the tactility of the work which is promoted through transfer and active engagement with the project.

Is the Project...	Answers
Active	The project is physically engaging.
Fun	It promotes light heated engagement and amusement for a deeper meaning.
Vital	It is not an essential part of the wider city but acts as an important method of finding out public opinion.
Special	It is different from usual public spaces within a temporary nature
Real	It exists for a short time.
Safe	Design outcomes promote a safe atmosphere with no obvious exposure to danger.
Walkable	The design promotes users to walk amount the field of balloons.
Sittable	Apart from the natural element of the grass the space is not sittable.
Attractive	The brightly coloured balloons are appealing to sight and touch.
Historic	The site does not provide any obvious historic value.
Diverse	The implementation of the playful balloons promotes a diverse space showing variety.
Stewardship	The installation does not intend to take care of the space due to its temporary nature.
Cooperative	It encompasses multiple experiences for the participant as well as being suitable for the individual.
Neighbourly	The installation promotes a friendly nature.
Welcoming	Additionally it invites a friendly manner
Proximity	Unknown
Connected	Unknown
Convenient	Unknown

Does the project...	Answers
Reach Maximum Senses	The installation promotes sight and touch.
Allow Familiarity	The utilisation of the balloon as an object provides familiarity for all.
Promote User Choice	Users are not forced to interact they can simply observe, pass by or fully interact.
Initiate play as an instinctive response	Play in relation to the balloon is viewed as an element which would promote an instinctive response.
Encompass a Mobile Nature	Daily Tous Les Jours have provided a tool kit for others to implement their design within varying sites as such it encompasses a mobile nature.
Give Play Permission	As with user choice, users are not forced to interact they can simply observe, pass by or fully interact, but are provided with a notion of play permission.

Project: (b.) The Red Ball Project, Kurt Perschke, 2001 onwards

Does the Project Encompass...	Answers
Creation	The participant is able to watch the development of the ball and its travelling nature throughout the city during the days of its presence. Additionally the ball allows users to be creative in expressing themselves physically and through photography.
Exploration	Participants are able to explore the situation of the red ball and how it is implemented into city elements.
Discovery	Furthermore participants may discover aspects of themselves as well as the further spatial setting of which the ball is placed.
Difficulty/Challenge	There is no skill or rule set attached to the red ball.
Competition	Additionally there is no goal or sense of competition.
Danger	The red ball promotes fun and engagement the opposite of danger.
Captivation	The size and impact of the red ball captivates users involving participants in an unexpected event.
Sensation	The red ball is highly tactile, thus promoting interactions on various levels.
Sympathy	Increased emotions are encouraged but not that of sympathy. It may be argued that sympathy with the forgotten spatial surroundings of which the red ball is placed may be present but overall feelings of enjoyment are present rather than a sympathetic feeling.
Stimulation	Stimulation of pleasure is received by both interacting and viewing playful interactions with the ball.
Fantasy	The ball as an unexpected element within the city causes fantasy and imagination of how to interact with the humorous occurrence.
Camaraderie	A sense of fellowship as a following of the ball grows as the project moves throughout its sites.
Subversion	There are no rules to break, as such rules cannot be broken.
Incentive	The incentive to interact is the large presence of the ball itself; its playful nature promotes engagement and a range of follow on actions.
Transfer	Transfer is promoted through incentive, from the act of interaction through to conversation and photography.
Accessibility	The work promotes an accessible nature through its familiarity and promotion of play.
Play	Through incentive and transfer play is promoted, firstly physical and secondly intellectual.

Is the Project...	Answers
Active	The red ball promotes immediate physical engagement.
Fun	Additionally the project promotes amusement and light hearted pleasure.

Vital	The project is not essential but draws the public to the attention of important details of the city as well as promoting further engagement at various levels.
Special	The red ball as a mobile work promotes a special atmosphere during its short term placement.
Real	The ball is an existing piece which can be physically interacted with.
Safe	The public are not exposed to danger through the encounter with the red ball.
Walkable	The red ball promotes a walkable nature around its placement.
Sittable	It does not provide a place to sit and rest, this is dependent on the surrounding elements.
Attractive	The colour red is appealing to the senses, within most placements it contrasts with the existing sites.
Historic	The historic nature is dependent on site selection.
Diverse	Despite its simplistic nature its placement has the potential to be diverse.
Stewardship	As a temporary nature is for one day only stewardship is viewed as non applicable.
Cooperative	The red ball has the potential to encompass interactions on a multiple level as well as the individual.
Neighbourly	During its placement it promotes a helpful and friendly cooperation.
Welcoming	Additionally it promotes a friendly manner.
Proximity	Location is changeable.
Connected	Location is changeable.
Convenient	Location is changeable.

Does the project...	Answers
Reach Maximum Senses	The project allows the senses of touch and sight additionally sound through the elements on the plastic of the ball.
Allow Familiarity	The red ball promotes a friendly atmosphere allowing the users to interact comfortably and to a level of their choice.
Promote User Choice	Permission to interact with the ball is given through its presence, thus giving the user an opportunity to interact but ultimately it is not forced.
Initiate play as an instinctive response	The ball as a familiar object acts as the instinctive play response.
Encompass a Mobile Nature	The design is easily transferable to multiple locations.
Give Play Permission	Play permission is offered within a safe environment.

Project: (c.) Red Swing Project, University of Austin Texas, 2007 onwards

Does the Project Encompass...	Answers
Creation	The participant is able to engage in the pleasure of interacting with the work but do not necessarily have the power to create or change something. They are able to enjoy the feeling of control over the piece.
Exploration	Users are able to explore the playful situation within an unexpected setting.
Discovery	Along with the discovery of the swing itself users are additionally able to explore the wider spatial setting.
Difficulty/Challenge	There is no specific skill required while interacting with the red swing, furthermore the basic state of play can be applicable to all.
Competition	There is no end goal, rules or length of time required.
Danger	There is no risk involved or feeling of thrill derived from danger.
Captivation	The enjoyment of play drives user actions.
Sensation	The physical act of play gives pleasure of enjoyment.
Sympathy	There is no reason for sympathy, but nostalgia could be evoked for some users.
Stimulation	The pleasure of a real life situation gives stimulation to the user.
Fantasy	The child like act accesses the imagination and fantasy of the individual.
Camaraderie	The playful act is ultimately individual; users do not work together in the interaction process.
Subversion	The swing is related to innocence, there are no specific rules to break and no pleasure in seeing others break rules.
Incentive	The familiarity of the swing promotes incentive to interact.
Transfer	Possibility to transfer from an observation of the playful act to a full physical interaction.
Accessibility	Participants are encouraged to engage through familiarity. There are sufficient cues which lead participants to experience.
Play	Play encompassed through the swing enables further interactivity, resulting in deeper user engagement.

Is the Project...	Answers
Active	Physical engagement is the primary purpose of the project.
Fun	The experience promotes a sense of engagement as well as light hearted pleasure.
Vital	The intervention is not essential but provides a playful engagement for a more serious purpose.
Special	As a short term encounter it encompasses a transitional nature.
Real	The experience is a real physical engagement.
Safe	No danger is exposed to the public.
Walkable	Allows participants to walk around the experience.
Sittable	Except the swing itself the experience is not sittable for all.
Attractive	The red swing project is appealing both visually and physically to promote engagement.
Historic	The design itself is not historic but encompasses the possibility to be implemented into historic sites.
Diverse	Can be placed in various locations.
Stewardship	The design itself does not take care of the spaces it encounters; additionally the short term nature will not promote stewardship.
Cooperative	Ultimately individual in the physical experience but collectively others can view and react to the situation.
Neighbourly	The playful nature and familiarity promote a welcoming nature.
Welcoming	The project invites a friendly manner.
Proximity	Location is changeable.
Connected	Location is changeable.
Convenient	Location is changeable.

Does the project...	Answers
Reach Maximum Senses	The project reaches the senses of touch, sight and sound.
Allow Familiarity	The playful nature of the swing promotes a familiar atmosphere for users to interact comfortably.
Promote User Choice	Users are offered the chance to interact but are not forced.
Initiate play as an instinctive response	The basic play object provides incentive.
Encompass a Mobile Nature	The design is easily transferable to multiple locations.
Give Play Permission	Play permission is offered within a safe environment.

(d.) Project: Piano Stairs, Volkswagen Fun Theory, Sweden, 2009

Does the Project Encompass...	Answers
Creation	Participants are able to be part of the creation of sound through the stairs enabling them to express themselves creatively whilst being in control.
Exploration	Participants are able to explore the situation of pleasure which is not usually seen in the spatial setting.
Discovery	Participants do not have to work something out, yet they are able to discover the consequences of their actions.
Difficulty/Challenge	There is no difficulty or challenge present to enable interaction, yet if a participant is familiar with the piano the output may be more pleasurable.
Competition	Likewise users are free to simply walk on the stairs.
Danger	There is no danger or obvious risk. Any unease of interaction could be counteracted by observing others but this is not characterised as thrill of danger.
Captivation	Participants can be captivated by the playful act, created sounds or the viewing of others. The playful stairs can drive the user to take the stairs rather than the escalator.
Sensation	Users are able to gin pleasure from the physical action of their work.
Sympathy	Sympathy for the work or others is not present.
Stimulation	The piano acts as incentive; therefore through the form of representation stimulation to interact is present.
Fantasy	The out of the ordinary experience, linked to the qualities of stimulation promote fantasy for the user.
Camaraderie	The project does not rely on the intimacy of others; rather a viewing and reacting relationship may be formed.
Subversion	If rules do not exist there are no rules to be broken.
Incentive	The provided sounds and viewing of others provokes incentive for users to interact playfully, thus taking the stairs rather than the escalator.
Transfer	Transfer from a viewing stage to physical interaction is caused by incentive.
Accessibility	The stairs are viewed as the most accessible part of the implementation site.
Play	Play is offered as the primary characteristic of the work promoting interactivity, thus promoting onward transfer and a feeling of fun.

Is the Project...	Answers
Active	Physical engagement is the primary objective of the project.
Fun	Both physical and viewing of the stairs promoted a fun and light hearted sense of pleasure.

Vital	The project is not essential but promotes physical engagement with the stairs for public good.
Special	It is different from usual public spaces, promoting a fun engagement with a usually transitional area but only for a short time.
Real	The experience is real during its short term placement.
Safe	The installation is safe and users are not exposed to risk.
Walkable	The installation demands that users walk to interact.
Sittable	The stairs are not promoted as a sittable area.
Attractive	The piano aesthetic creates an attractive atmosphere.
Historic	The stairs and train station are not a historic or famous location.
Diverse	The design does not hold a diverse nature; the piano should not be altered as users would not encompass familiarity.
Stewardship	The installation improves the spatial setting for a short while.
Cooperative	Users may interact in a individual or collaborative way.
Neighbourly	The stairs promoted a friendly atmosphere.
Welcoming	Furthermore promoting a welcoming atmosphere in contrast to the fast paced transition of the everyday experience.
Proximity	The train station would be in close proximity to city elements.
Connected	The stairs connect the outside to the inside of the station.
Convenient	Convenient is non applicable as the stairs already exist.

Does the project...	Answers
Reach Maximum Senses	Touch and sound are the prominent senses in the installation.
Allow Familiarity	The piano is a playful element familiar to all even if someone cannot play the piano.
Promote User Choice	User choice to take the stairs or escalator remains.
Initiate play as an instinctive response	To see the stairs promotes an instinctive response to touch and create.
Encompass a Mobile Nature	The installation may be implemented into other stairs.
Give Play Permission	Play permission is offered immediately through sound.

(e.) Project: Before I Die, Candy Chang, 2011 onwards

Does the Project Encompass...	Answers
Creation	The participant is able to take pleasure in sharing their ideas with others; furthermore the physical act of writing their thoughts creates a visual output.
Exploration	The user is also able to explore the thoughts of others by reading the comments left at an earlier time.
Discovery	Discovery is merged between creation and exploration. The participant is able to discover: the work, their thoughts and the thoughts of others.
Difficulty/Challenge	There is no apparent difficulty present in the work.
Competition	Furthermore competition is not present as users are free to explore their own thoughts.
Danger	Additionally danger or risk is not witnessed. It may be argued that for some that the subject nature may be a thought provoking process.
Captivation	The user may be captivated through reading the thoughts of others, prompting them to include their own.
Sensation	Participants may gain a sense of satisfaction by adding to the work, for example vocalising their thoughts within a creative method.
Sympathy	Users are able to share their emotional feelings with others in many cases anonymously.
Stimulation	Stimulation is present as the act of the chalk board reminds us of a child like game, thus stimulating interaction.
Fantasy	Fantasy allows the participant to access their imagination. The though provoking nature of the installation permits the user to think deeper to share their fantasies with others.
Camaraderie	The sense of friendship and intimacy with another user is not apparent, users are free to view the views of others but will not be able to form a relationship with fellow participants unless present at the same time.
Subversion	Subversion has the potential to be present, due to personal fantasy, but it is not an obvious trait of the work.
Incentive	Viewing the large out of the ordinary board and the interactions of others promotes incentive for others to participate.
Transfer	The transfer of thoughts to the board are obvious, but a thought provoking subject matter has the potential to transfer further that the simple act of writing thought on a board. The project aims for a deeper engagement of what is really important in life.
Accessibility	The intensions of the project are clear; additionally the familiarity of the black board promotes an accessible nature.
Play	The playful act stimulated by the childlike act prompts user interaction and transfer of thoughts and actions.

Is the Project...	Answers
Active	The project is physically engaging.
Fun	Participants are offered amusement through interaction of an out of the ordinary experience whilst being offered a meaning of deeper engagement.
Vital	It is not essential to public life, yet arguably provokes interactions and thoughts of what is important to us.
Special	It is different to our normal encounters in public space, yet due to its temporary nature will only have impact for a short time.
Real	The project allows users a real physical experience.
Safe	There is no obvious danger exposed to the public.
Walkable	You cannot walk in and around the experience as the installation is fixed to an existing wall, thus it does no change passersby usual path.
Sittable	You cannot sit at the site of installation.
Attractive	The visual outcome of the blackboard is appealing to the senses prompting others to interact.
Historic	Sites are not historic or important, conversely they are underutilised.
Diverse	The project allows for a variety of thoughts and viewpoints to be implemented.
Stewardship	The project does not take care of the space, especially due to its temporary nature.
Cooperative	Multiple experiences occurring simultaneously can be witnessed.
Neighbourly	Furthermore the project promotes friendly cooperation.
Welcoming	A welcoming and friendly atmosphere is created despite the serious subject matter.
Proximity	Location is changeable.
Connected	Location is changeable.
Convenient	Location is changeable.

Does the project...	Answers
Reach Maximum Senses	Sight and touch are promoted through viewing the project and then physically interacting.
Allow Familiarity	The use of the chalk board is a familiar element from childhood experiences of school and play.
Promote User Choice	Permission to interact is given, yet users are free to interact to a level of which they feel comfortable.
Initiate play as an instinctive response	The basic play object of chalk and black board is offered.
Encompass a Mobile Nature	The use of the wall and black board is universal and can be implemented into various sites of the city.
Give Play Permission	Play permission is offered in a safe environment.

(f.) Project: The world's deepest bin, Volkswagen Fun Theory, 2009

Does the Project Encompass...	Answers
Creation	Users do not create something through the interaction with the bin.
Exploration	The public are able to explore the humours sound created by the bin.
Discovery	Furthermore they are able to discover the playful act when placing something inside of the bin.
Difficulty/Challenge	There is no difficulty or challenge placed upon the interaction.
Competition	There is no end goal to the interaction which allows no competition.
Danger	There is no risk to the public or danger exposed to them.
Captivation	Users may be captivated by the fun element of sound prompting them to place more items within the bin.
Sensation	Users are able to have a feeling of pleasure through the sensation that there physical actions create an outcome of sound.
Sympathy	No emotional feelings or sympathetic emotions are apparent.
Stimulation	Users are stimulated to interact through the playful sound of the bin.
Fantasy	Users gain pleasure from the unimaginable and the fantasy that it really is the 'world's deepest bin'.
Camaraderie	Friendship or fellowship is not apparent in the work.
Subversion	There are no rules to break or meaning to twist.
Incentive	The interactive sounds produced through the work give incentive to the users to place their rubbish in the bin
Transfer	The public may collect surrounding rubbish to engage further.
Accessibility	The bin is placed in an accessible location.
Play	Play is produced through engagement with the bin.

Is the Project...	Answers
Active	Interaction is the physical engagement with the bin.
Fun	The project evokes a humorous outcome for a serious problem.
Vital	The bin itself is essential but the playful twist provides incentive.
Special	The space is not different to a normal public space but the fun element sets it apart.
Real	The project is real, it exists and is not imagined.
Safe	The bin does not expose the public to any danger.
Walkable	The aim of the project is to be placed within a walkable area.
Sittable	The bin does not promote a place to sit and rest.

Attractive	As an element the bin is not usually seen as attractive but the element of fun attracts users.
Historic	It does not have a famous or important connotation.
Diverse	Variety is not apparent.
Stewardship	The implementation of the bin with the intention of promoting public good promotes an environmentally friendly nature.
Cooperative	It is not obviously cooperative yet users may collect rubbish together.
Neighbourly	It promotes a helpful and friendly cooperation.
Welcoming	The design itself is not welcoming.
Proximity	Location is changeable.
Connected	Location is changeable.
Convenient	Location is changeable.

Does the project...	Answers
Reach Maximum Senses	Touch, sight and sound are promoted through the interaction with the bin.
Allow Familiarity	The familiarity of the bin does not promote interaction, furthermore the sound produced is one of humour but not familiarity.
Promote User Choice	User choice is offered.
Initiate play as an instinctive response	To use the bin is not an instinctive response, users may not be aware of the bin unless they were to use it anyway.
Encompass a Mobile Nature	The design may be placed within any bin but this is not a mobile design.
Give Play Permission	Once the interactive properties are understood play permission is offered.

(g.) Project: Karl Marx Bonsai, Plastique Fantastique. Berlin, 2008

Does the Project Encompass...	Answers
Creation	Users are not able to physically create something whilst interacting with the inflatable, but they are able to be part of the installation thus feeling pleasure of being within.
Exploration	Users are able to enter and gain pleasure from being within and finding out what is inside.
Discovery	Participants are able to discover the spatial experience from both the outside and inside.
Difficulty/Challenge	There is no difficulty experience or skill required to interact.
Competition	Furthermore competition does not exist, there is no end goal defined by the work.
Danger	Users are not exposed to danger or risk, although being within the inflated space may cause unease.
Captivation	Users have the potential to be mesmerised being inside of the inflated space allowing them to view their surroundings through a new 'lens'.
Sensation	The act of touching the light film which separates users from inside to out allows sensation. Furthermore allowing participants a distortion of sound from within.
Sympathy	The installation does not promote sympathy or a situation for users to feel sympathetic.
Stimulation	The humorous and large inflated flower pot has the potential to stimulate the public in a playful manner.
Fantasy	Furthermore the oversized object causes fantasy for the user.
Camaraderie	Camaraderie is not obviously present in the work but the creation of privacy within the bubble may create intimacy with others.
Subversion	There are no rules to break or meanings to twist.
Incentive	The presence of the large colourful inflatable promotes incentive to interact and go inside.
Transfer	Related to incentive the presence of the humorous inflatable promotes transfer of further engagement with the site and others.
Accessibility	Located within a prominent area of the city the design is accessible to all members of the public.
Play	Play and playfulness is prompted by the design aesthetic and the ability to be within the installation.

Is the Project...	Answers
Active	Users were able to physically engage and enter the inflatable.
Fun	The large yellow flowerpot promotes enjoyment, amusement and light-hearted pleasure.
Vital	It is not an essential element of the city.
Special	The installation is considered a different element to the usual city as a short term placement.
Real	It existed as a temporary design in the city.
Safe	The inflatable is protected and not exposed to risk or danger.
Walkable	The installation was located within an accessible area of the city.
Sittable	Three benches are located within the flower pot making it a place to sit and enjoy.
Attractive	The humorous nature of the flowerpot is attractive and appealing.
Historic	The design does not encompass a historic nature but the spatial setting is famous.
Diverse	The design is diverse in contrast with other city elements.
Stewardship	The temporary nature improves the spatial image for the short term.
Cooperative	The inflatable allows multiple users to enter but does not require cooperative interactions.
Neighbourly	The design promotes friendly cooperation between the public.
Welcoming	Furthermore the presence of the large inflated plant pot welcomes the public in a friendly manner.
Proximity	The location is central within the city.
Connected	The location is central within the city.
Convenient	The location is central within the city.

Does the project...	Answers
Reach Maximum Senses	The installation initially appeals to sight, touch and once within sound and smell of the tree and plastic.
Allow Familiarity	The flowerpot is a familiar item to all.
Promote User Choice	User choice is allowed, users may interact to a level of which they feel comfortable.
Initiate play as an instinctive response	Play is not an instinctive response as users may find the flower pot ambiguous and question how to interact.
Encompass a Mobile Nature	The design may be transferred to other areas.
Give Play Permission	Once users examine the spatial experience play permission is offered.

(h.) Project: Spun Installation, Thomas Heatherwick, London, 2010

Does the Project Encompass...	Answers
Creation	The user is able to express themselves creatively rather than create something, thus they are able to feel in control of their actions.
Exploration	The pleasure users gain is primarily the exploration of the chairs limitations along with viewing the exploration of others.
Discovery	Users are able to discover how the chair works.
Difficulty/Challenge	There is no obvious difficulty, but users may develop a skill of how to use the spinning chair.
Competition	No competition is present; users do not have an end goal.
Danger	Danger and risk are not associated with the installation.
Captivation	The installation aims to captivate the audience both in physical engagement and secondly through viewing others interactions.
Sensation	Sensation is promoted through physically engaging with the work.
Sympathy	There are no feelings of sympathy and emotion connected with the work.
Stimulation	Physical stimulation is promoted by acting in a way usually seen within a Childs toy.
Fantasy	Additionally physically engaging with the oversized spinning top promotes fantasy.
Camaraderie	Intimacy with others is not apparent in the work although users may form moments of laughter and encouragement for others to interact.
Subversion	There are no rules to break; participants are free to interact as they wish.
Incentive	Incentive is produced through the oversized object and physical engagement possibilities.
Transfer	Upon viewing others participants are given the incentive to interact.
Accessibility	The installation is placed within an accessible location promoting further interactions.
Play	Play is the primary engagement with the piece for all.

Is the Project...	Answers
Active	The installation is clearly physically engaging.
Fun	It promotes active engagement in an enjoyable, amusing and light-hearted manner.
Vital	The installation is not viewed as essential.
Special	The temporary installation is an out of the ordinary experience for a short while.
Real	The design exists as a real physical engagement.

Safe	The public are not exposed to risk or danger.
Walkable	The installation is placed within a walkable site; users are free to walk in and around the chairs.
Sittable	The aim of the installation is to be a sittable and playful experience.
Attractive	The occurrence of the spun chair appearing as a spinning top is attractive and familiar.
Historic	It is not considered famous or important.
Diverse	The installation is diverse in relation to users' usual spatial experience.
Stewardship	The installation is a temporary experience aimed at short term impact. Overall it does not take care of the space.
Cooperative	The chair is available only for the individual. Due to 30 chairs being present it allows multiples to experience at the same time.
Neighbourly	The installation promotes helpful and friendly cooperation through the playful act.
Welcoming	Furthermore the playful installation allows a welcoming atmosphere.
Proximity	Location is changeable.
Connected	Location is changeable.
Convenient	Location is changeable.

Does the project...	Answers
Reach Maximum Senses	Sight, Sound and touch are promoted through interaction with the chair.
Allow Familiarity	The spinning top is an iconic play element familiar to all.
Promote User Choice	Users are free to observe or physically interact.
Initiate play as an instinctive response	As an instinctive response users are prompted to sit and physically engage with the chairs.
Encompass a Mobile Nature	The installation may be transferred to various sites.
Give Play Permission	Play permission is the offering of interaction with the chair.

Appendix 4.4: Design Analysis Findings

Costello & Edmonds (2007) Play/Pleasure Framework	Her (2010) 5 Engaging Characteristics	Musee des Possibles	The Red Ball Project	Red Swing Project	Piano Stairs	Before I Die	The world's deepest bin	Karl Marx Bonsai	Spun Installation			
		Daily Tous Les Jours	Kurt Perschke	University of Austin Texas	Volkswagen Fun Theory	Candy Chang	Volkswagen Fun Theory	Plastique Fantastique	Thomas Heatherwick			
		Montreal	Various Locations	Various Locations	Sweden	Various Locations	Sweden	Berlin	London	Total	Total	Total
		2010	2001 onwards	2007 onwards	2009	2011 onwards	2009	2008	2010	Yes	No	N/A
Creation		Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Exploration		Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Discovery		Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Difficulty	**Challenge**	N	N	N	N	N	N	N	N	0	8	0
Competition		N	N	N	N	N	N	N	N	0	8	0
Danger		N	N	N	N	N	N	N	N	0	8	0
Captivation		N	Y	Y	Y	Y	Y	Y	Y	7	1	0
Sensation		N	Y	Y	N	Y	Y	Y	Y	6	2	0
Sympathy		N	N	N	N	Y	N	N	N	1	7	0
Stimulation		Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Fantasy		Y	Y	Y	y	Y	Y	Y	Y	8	0	0
Camaraderie		Y	Y	N	N	N	N	N	N	2	6	0
Subversion		N	N	N	N	N/A	N	N	N	0	7	1
	Incentive	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
	Transfer	Y	Y	Y	Y	Y	Y	Y	y	8	0	0
	Accessibility	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
	Play	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0

Project for Public Spaces (2009) Place Diagram	**Musee des Possibles**	**The Red Ball Project**	**Red Swing Project**	**Piano Stairs**	**Before I Die**	**The world's deepest bin**	**Karl Marx Bonsai**	**Spun Installation**			
	Daily Tous Les Jours	Kurt Perschke	University of Austin Texas	Volkswagen Fun Theory	Candy Chang	Volkswagen Fun Theory	Plastique Fantastique	Thomas Heatherwick			
	Montreal	Various Locations	Various Locations	Sweden	Various Locations	Sweden	Berlin	London	Total	Total	Total
	2010	2001 onwards	2007 onwards	2009	2011 onwards	2009	2008	2010	Yes	No	N/A
Active	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Fun	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Vital	N	N	N	N	N	N	N	N	0	8	0
Special	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	8
Real	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Safe	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Walkable	Y	Y	Y	Y	N	Y	Y	Y	7	1	0
Sittable	N	N	N	N	N	N	Y	Y	2	6	0
Attractive	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Historic	N	N	N	N	N	N	Y	N	1	7	0
Diverse	Y	Y	Y	N	Y	N	N	Y	5	3	0
Stewardship	N	N	N	N	N	Y	N	N	1	7	0
Cooperative	Y	Y	Y	Y	Y	N	Y	N	6	2	0
Neighbourly	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Welcoming	Y	Y	Y	Y	Y	N	Y	Y	7	1	0
Proximity	N/A	N/A	N/A	Y	N/A	N/A	Y	N/A	1	0	7
Connected	N/A	N/A	N/A	Y	N/A	N/A	Y	N/A	1	0	7
Convenient	N/A	N/A	N/A	N/A	N/A	Y	Y	N/A	1	0	7

Expert Interview Conclusions	Musee des Possibles	The Red Ball Project	Red Swing Project	Piano Stairs	Before I Die	The world's deepest bin	Karl Marx Bonsai	Spun Installation			
	Daily Tous Les Jours	Kurt Perschke	University of Austin Texas	Volkswagen Fun Theory	Candy Chang	Volkswagen Fun Theory	Plastique Fantastique	Thomas Heatherwick			
	Montreal	Various Locations	Various Locations	Sweden	Various Locations	Sweden	Berlin	London	Total	Total	Total
	2010	2001 onwards	2007 onwards	2009	2011 onwards	2009	2008	2010	Yes	No	N/A
Maximum Senses	N	Y	Y	Y	Y	Y	Y	Y	7	1	0
Allow Familiarity	Y	Y	Y	Y	Y	N	Y	Y	7	1	0
User Choice	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0
Play/instinctive response	Y	Y	Y	Y	Y	N	N	Y	7	1	0
Mobile Nature	Y	Y	Y	Y	Y	N	Y	Y	7	1	0
Play Permission	Y	Y	Y	Y	Y	Y	Y	Y	8	0	0

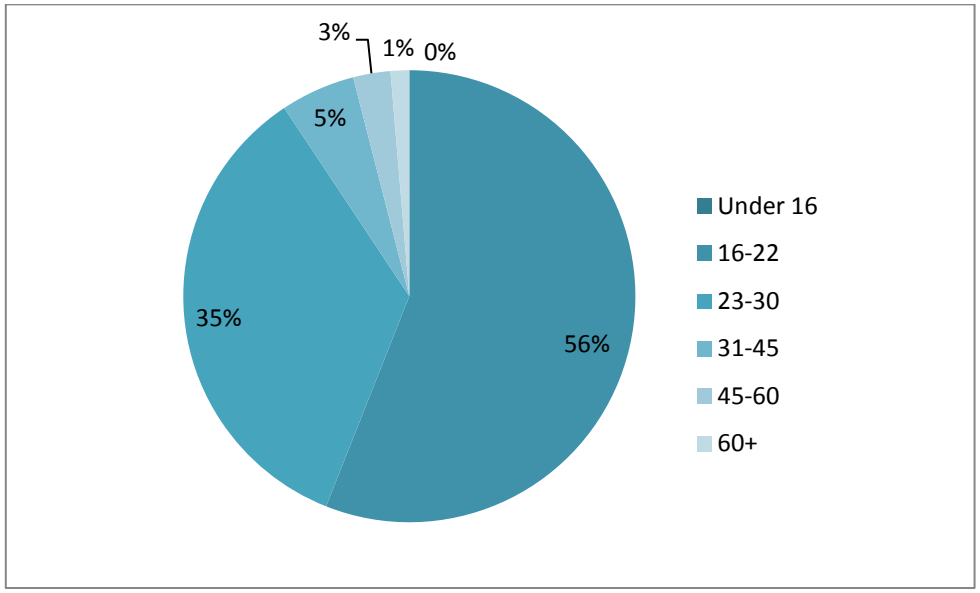
Appendix 5.1: Let's Intervene Questionnaire Findings

Section 1: Personal Data

1. **Name_ Optional (Very few answers. As such the question was deemed unusable.)**

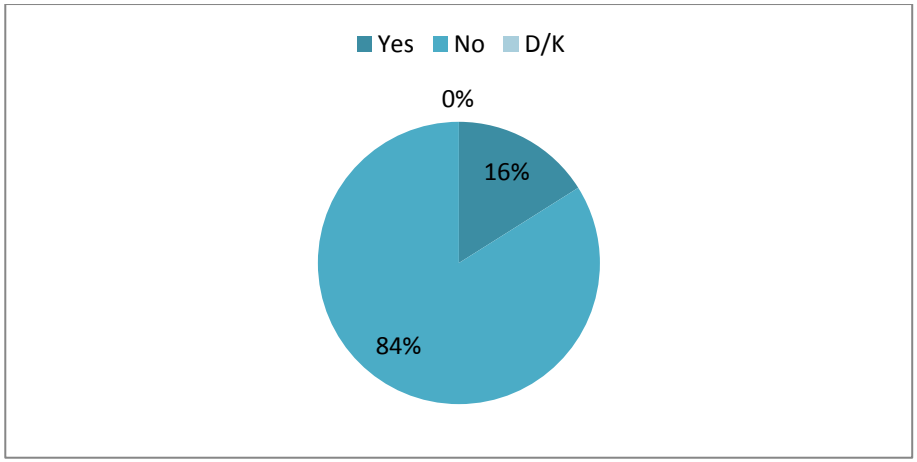
2. **Occupation_ Optional (Very few answers. As such the question was deemed unusable.)**

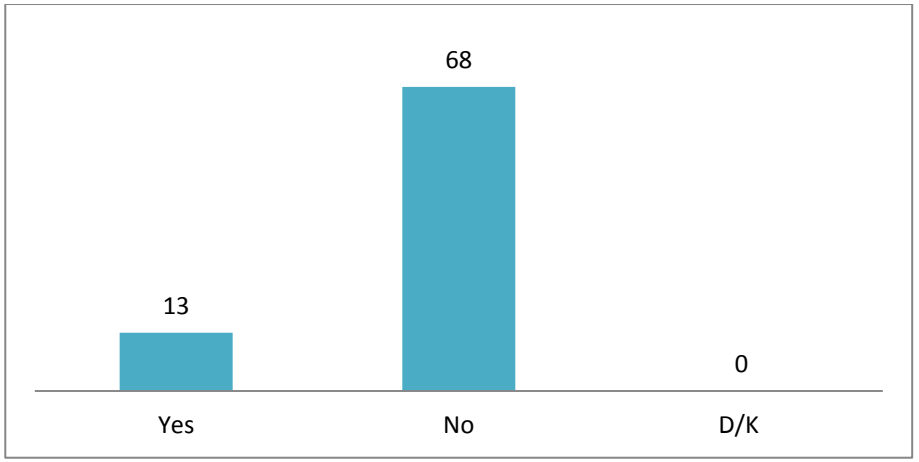
3. **Age?**



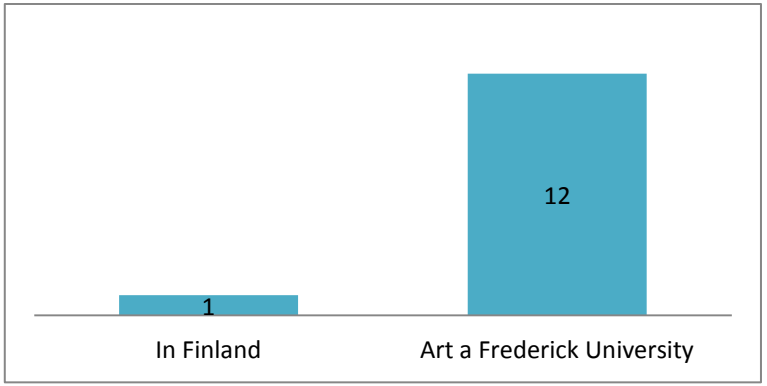
Section 2: Previous experiences with Interactive Designs

4. Have you ever experienced an interactive space or art installation before?



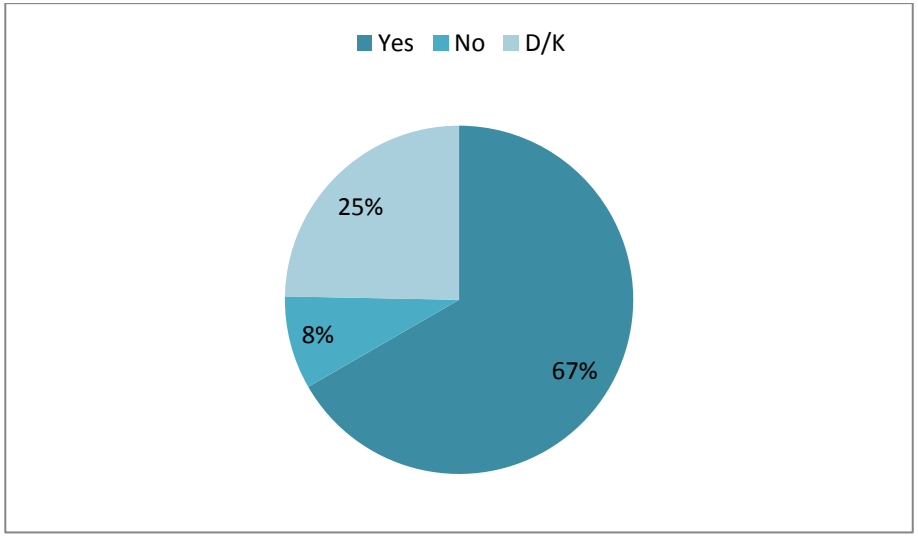


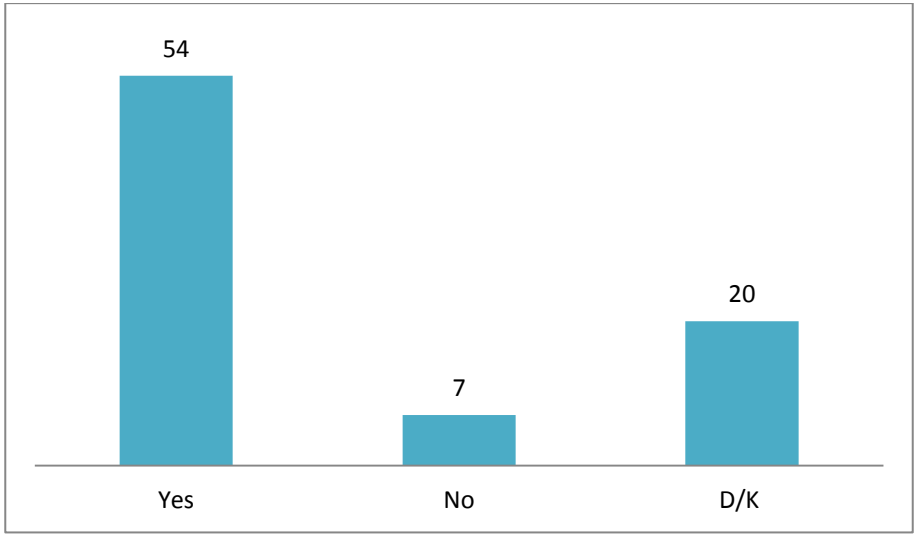
5. If yes what and where was the space that you have experienced?



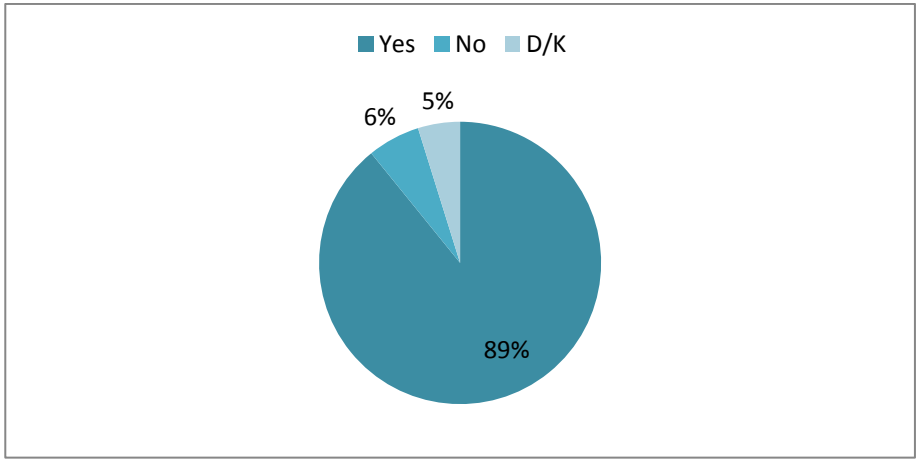
Section 3: Attitudes towards the implementation of art and design within public space

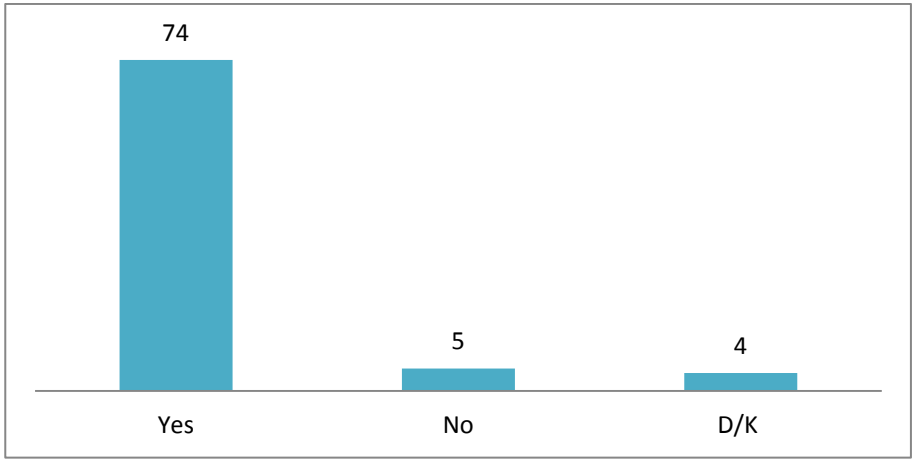
6. In today's technology era do you believe adding technology into a public space would be a benefit?



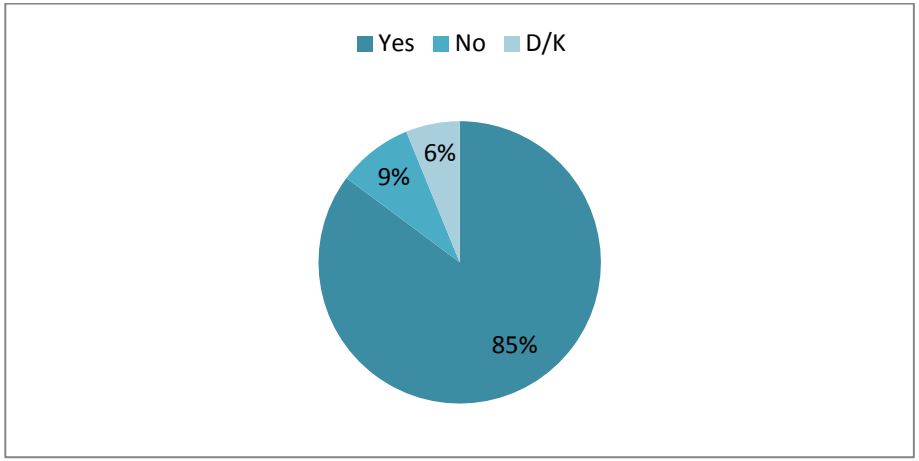


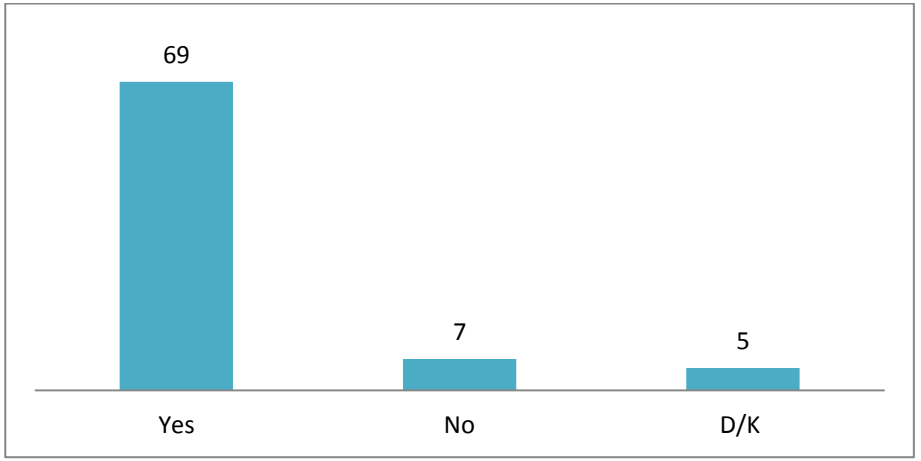
7. Do you believe that the element of fun and interaction within a space would be an added benefit?



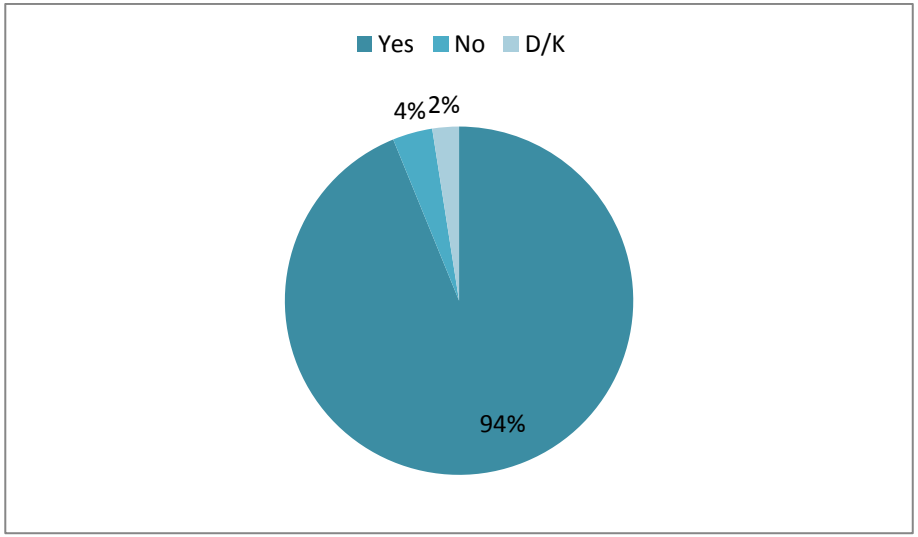


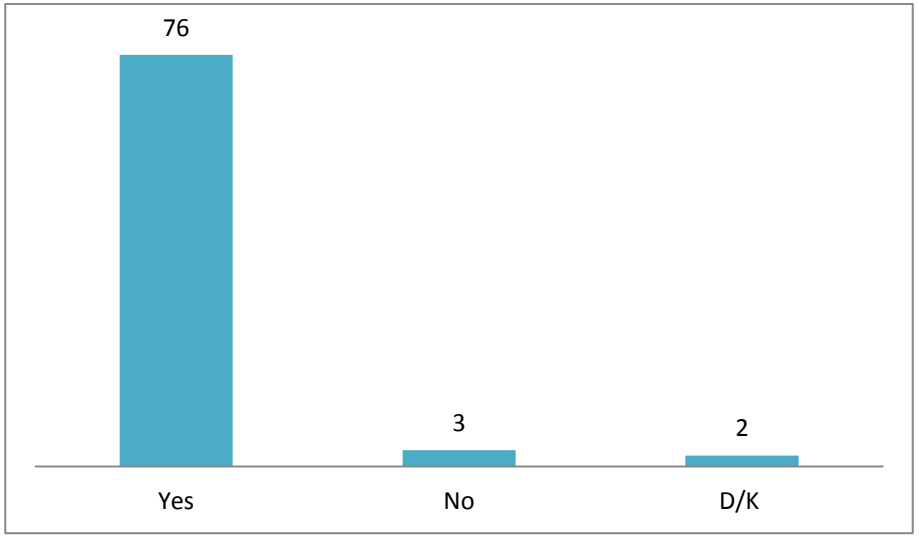
8. Do you believe art especially is important in a public area?





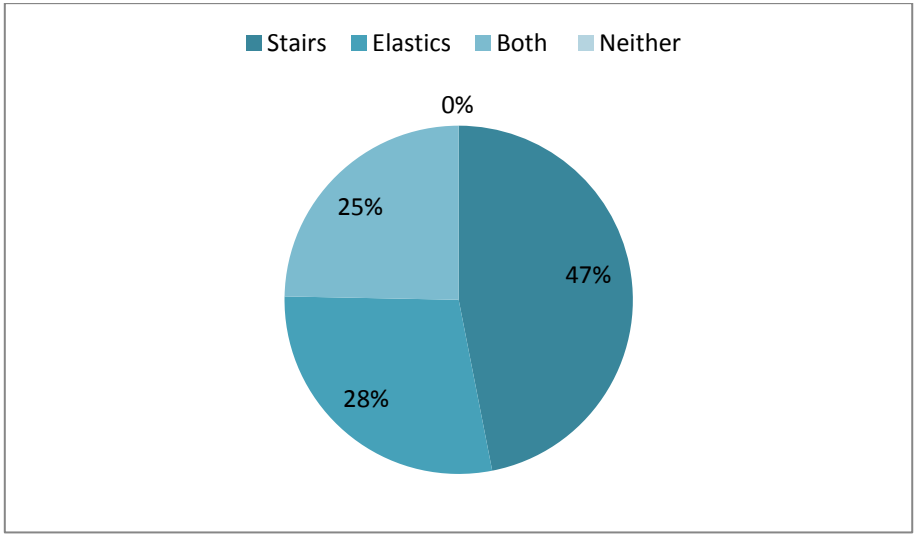
9. Over time an area/space can become boring. If a space was frequently transformed would this make a space more appealing?



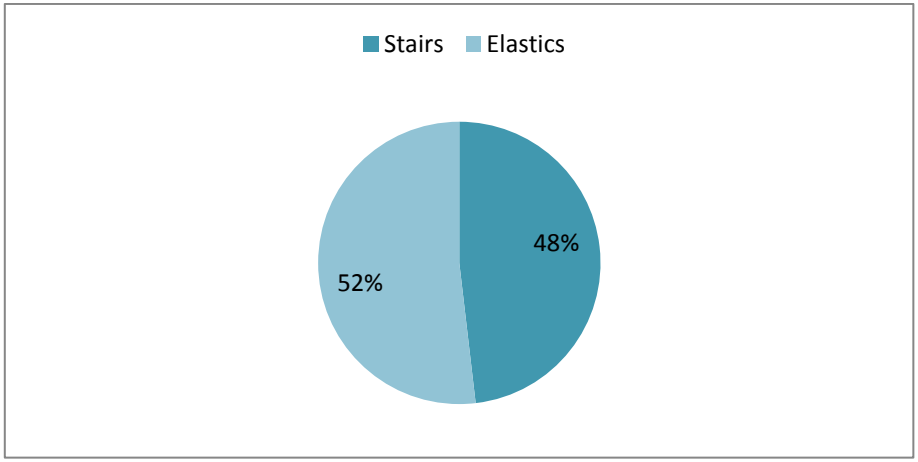


Section 4: Opinions towards the design artefacts

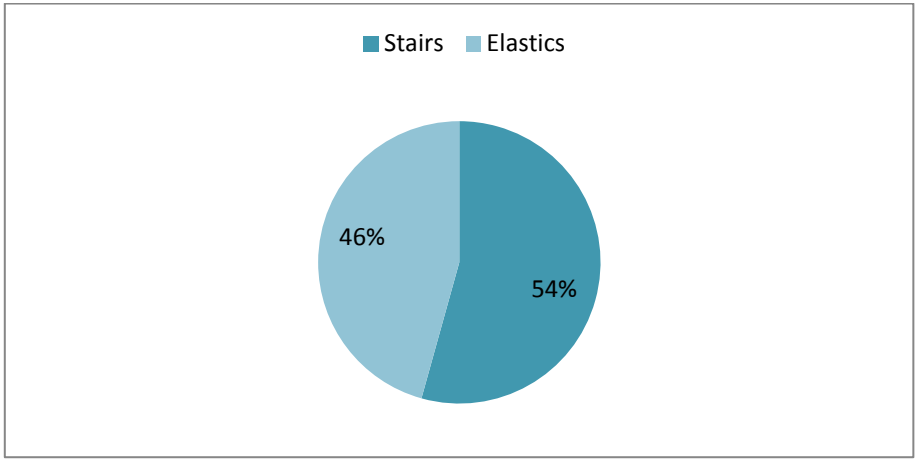
10. Which design of the implemented designs did you interact with?



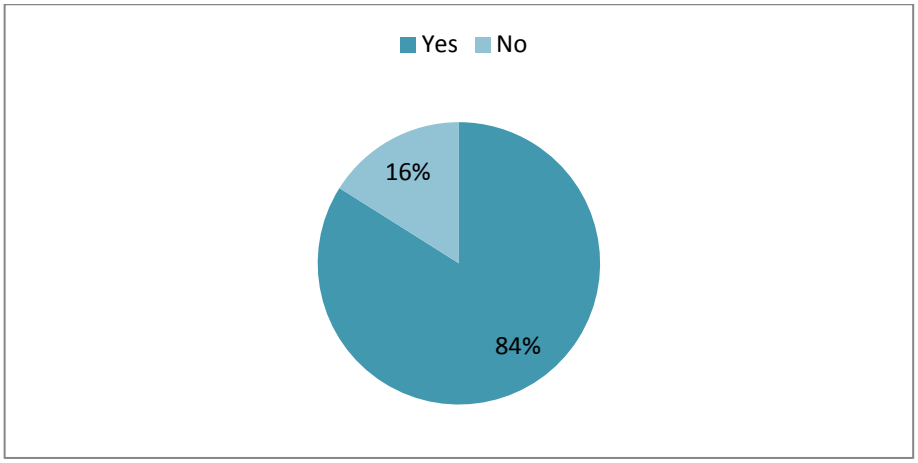
11. Which Installation did you find most interesting?

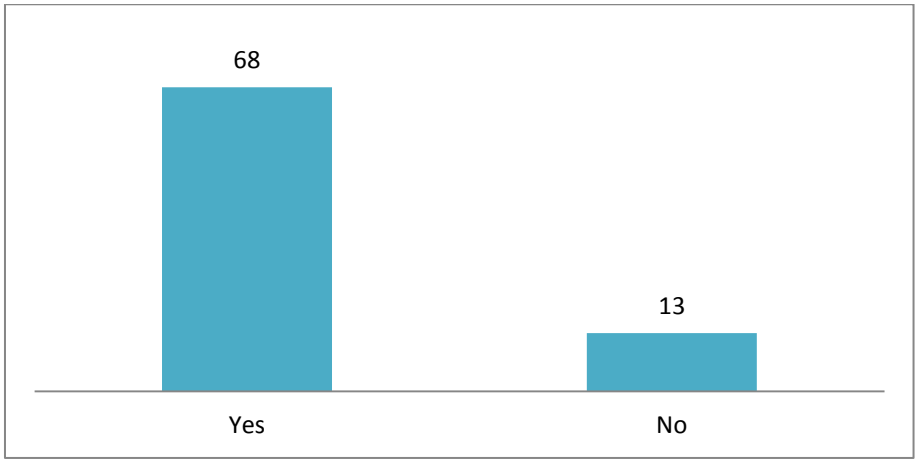


12. Which installation did you find most interactive?

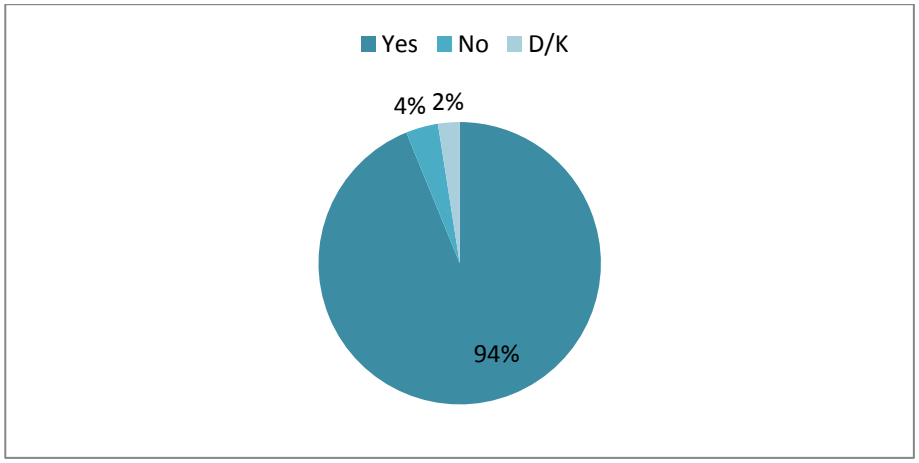


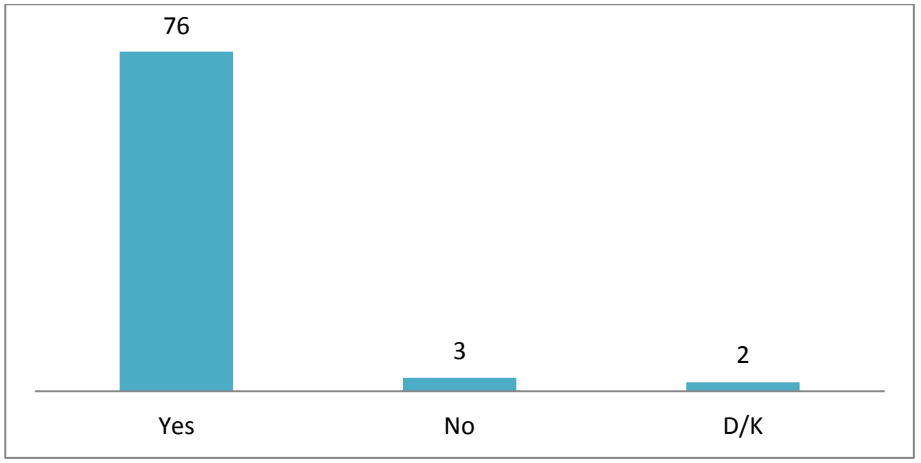
13. Did the installations have a positive effect on your day?



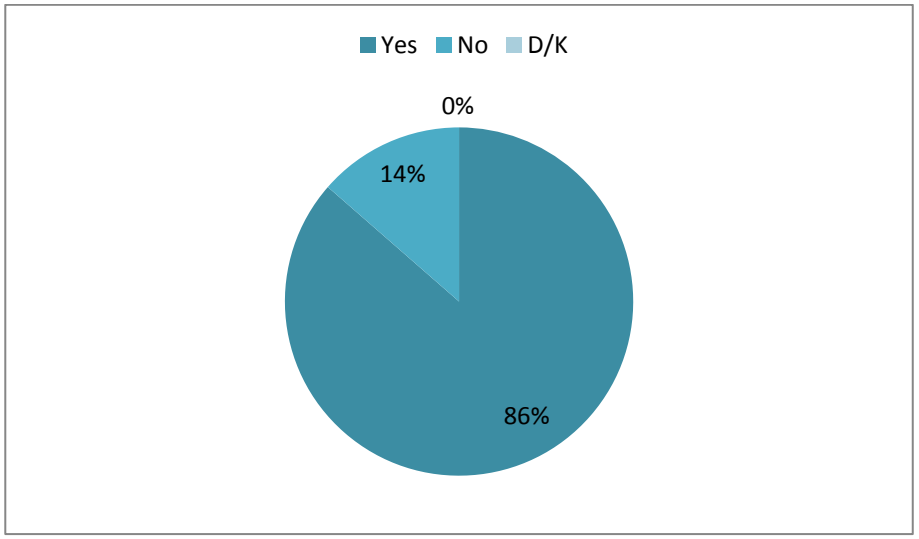


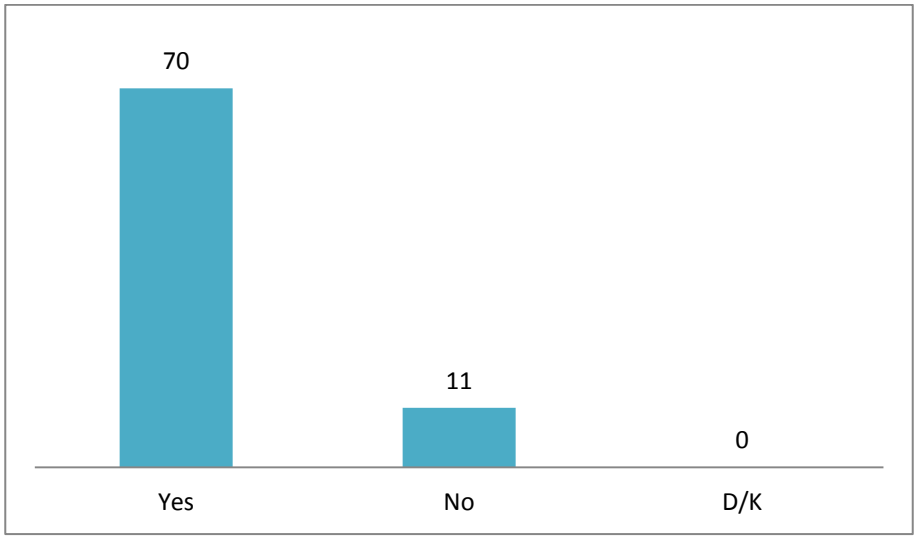
14. Do you believe the designs had a positive effect on the general mood of the public?





15. Would you like any of the designs to remain permanently?





Section 5: Opinions relating to 'transfer'

Additional Comments:

1. It was something that really changed my mood for the better
2. It improved my mood because of the use of colour
3. It improved my day because I met and talked to people that I wouldn't on a usual daily basis
4. It should be done in Larger spaces and use more colour
5. Very encouraging project as it elevates our mood
6. The university is very dull and we need these types of designs
7. It was nice to see them
8. It is a fun project to raise the mood of the public
9. Great Project! Very Interesting! Good Job! Keep up the work!
10. It would improve the mood of the public only at the beginning
11. Inform the public in advance to come and visit
12. Very nice and good work, well done!
13. Simply perfect
14. Really good work, the installations should stay
15. The place becomes more interesting, the mood changes, it becomes a fun place and the places are used more by the students
16. Put a colourful elastic instead of white
17. A very good way to let out pressure, thank you
18. Music would improve all of the designs
19. The installations offer something different to the university and also add colour
20. A pleasant day and experience for all

Appendix 5.2: Level of User Interaction: Overall Data Comparison from Elastics and Stairway installation

Total Number observed = 72 Subjects (stairway)/ Total Number Observed = 82 Subjects (elastics)/ Total = 154 Subjects

Data Taken During a 2 hr Period 11am – 1pm

	Male	Female
Stairs	43	29
Elastics	50	32

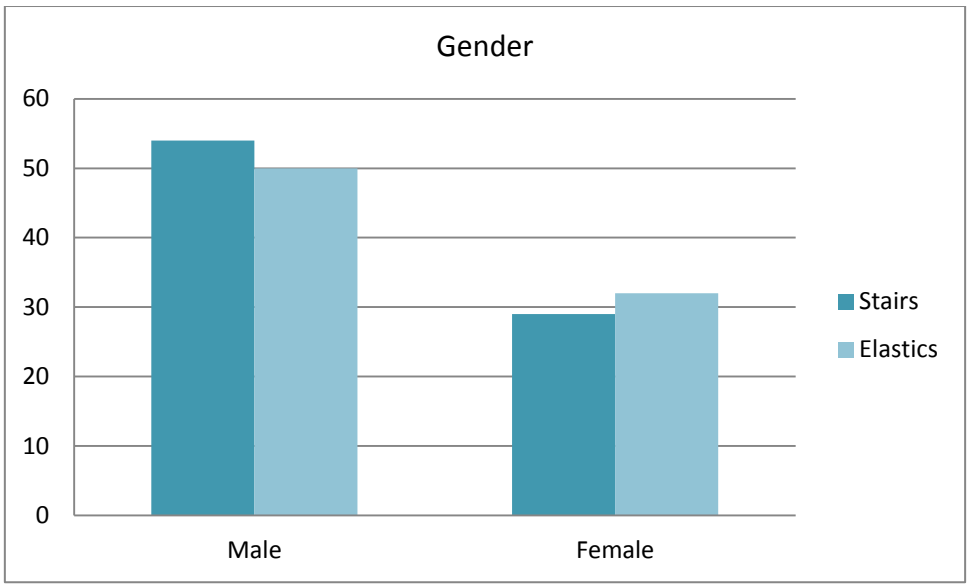
Age	Stairs	Elastics
0-16	1	9
16 - 22	39	36
23 - 30	20	20
30 - 45	20	14
45-60	3	3
60 +	0	0

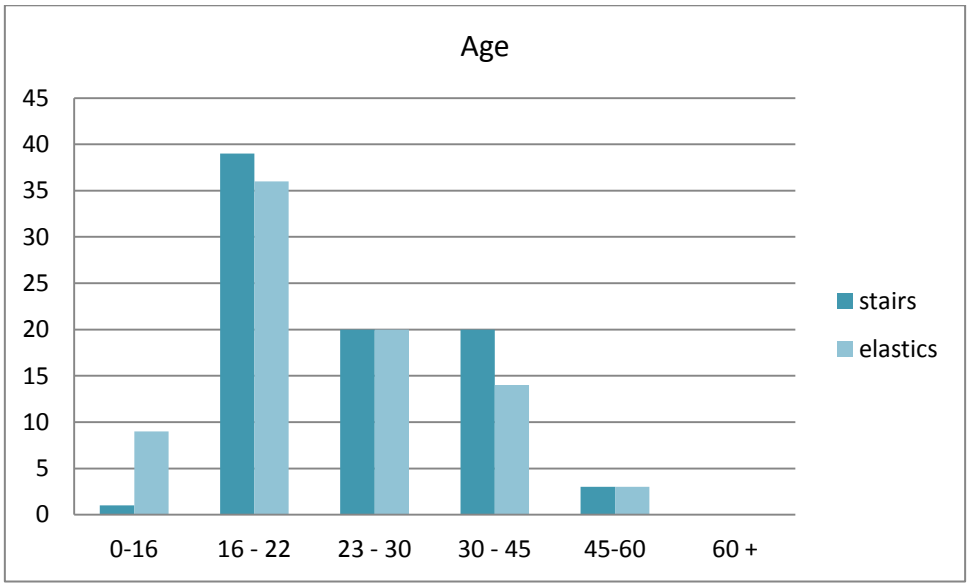
Level of Interaction	Stairs	Elastics	Stairs	Elastics
	Individual Level of Interaction	Individual Level of Interaction	Multiple Level of Interaction	Multiple Level of Interaction
Direct	8	12	15	33
Viewing and Reacting	12	6	18	16
Ambient	4	10	11	6
Unawareness	1	3	3	2

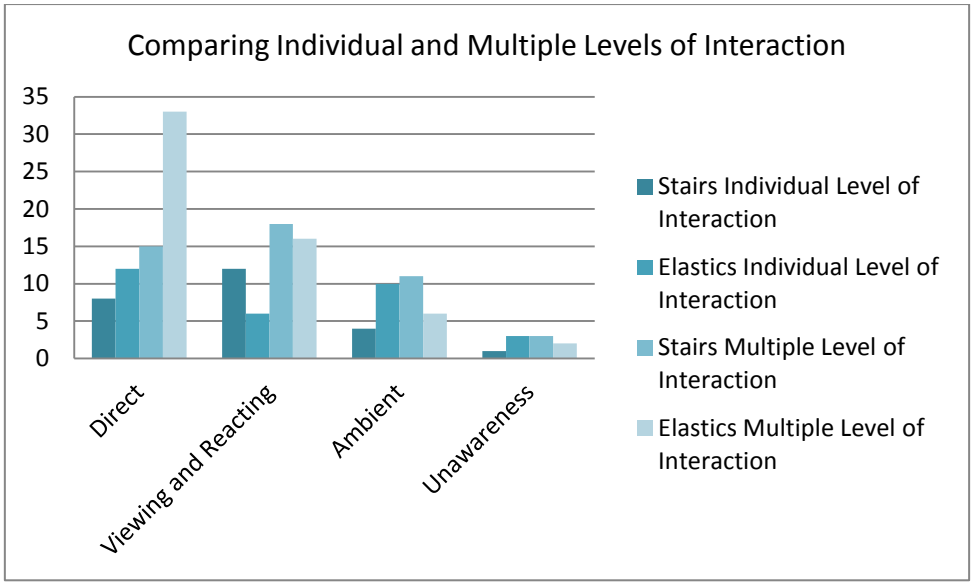
Follow on actions	Stairs	Elastics
Direct Photo opportunity	2	7
Street Dialogue between friends	15	2
Street Dialogue between Strangers	4	7

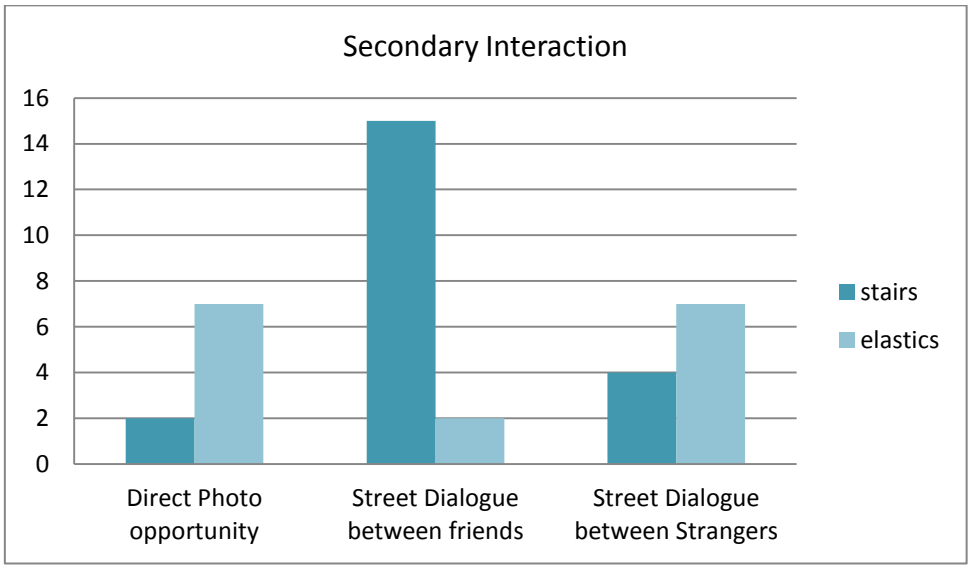
Level of User Interaction

Total Number observed = 72 Subjects (stairway)/ Total Number Observed = 82 Subjects (elastics)/ Total = 154 Subjects



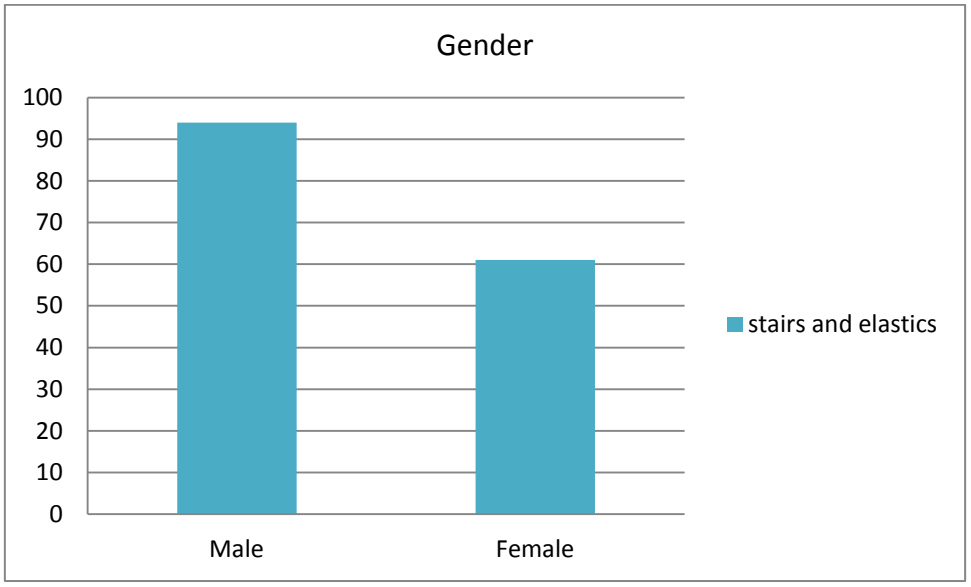


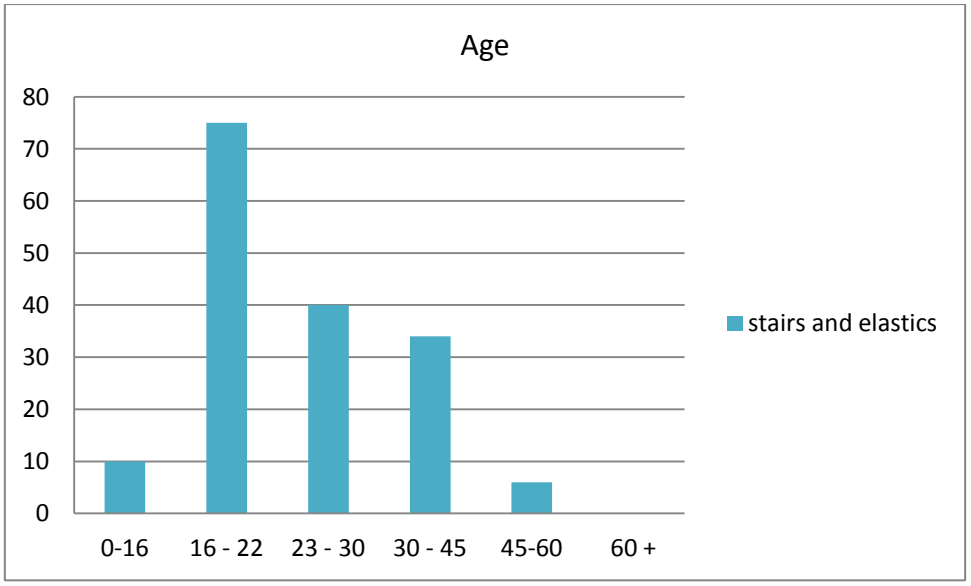

Comparing Individual and Multiple Levels of Interaction
35
30
25
20
15
10
5
0
Direct
Viewing and Reacting
Ambient
Unawareness
Stairs Individual Level of Interaction
Elastics Individual Level of Interaction
Stairs Multiple Level of Interaction
Elastics Multiple Level of Interaction

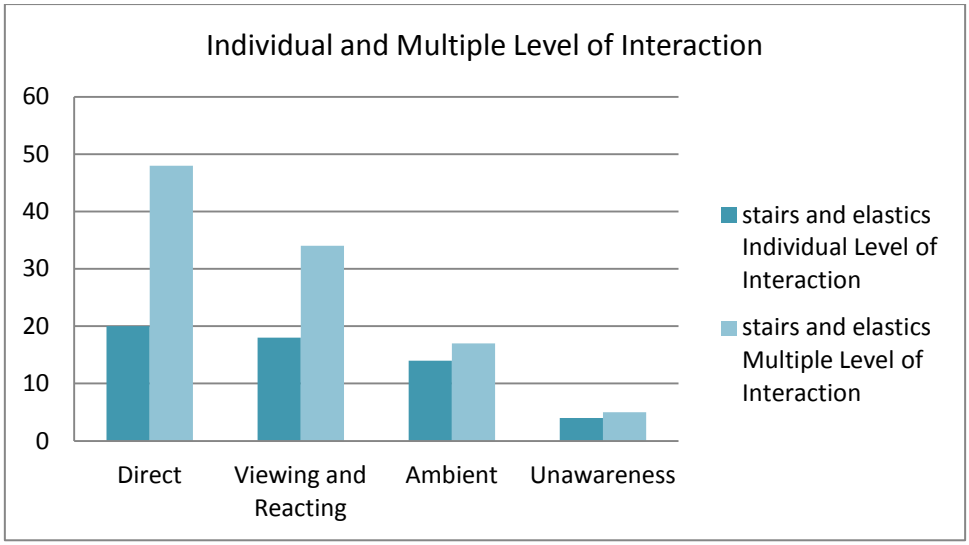

Secondary Interaction
16
14
12
10
8
6
4
2
0
Direct Photo opportunity
Street Dialogue between friends
Street Dialogue between Strangers
stairs
elastics

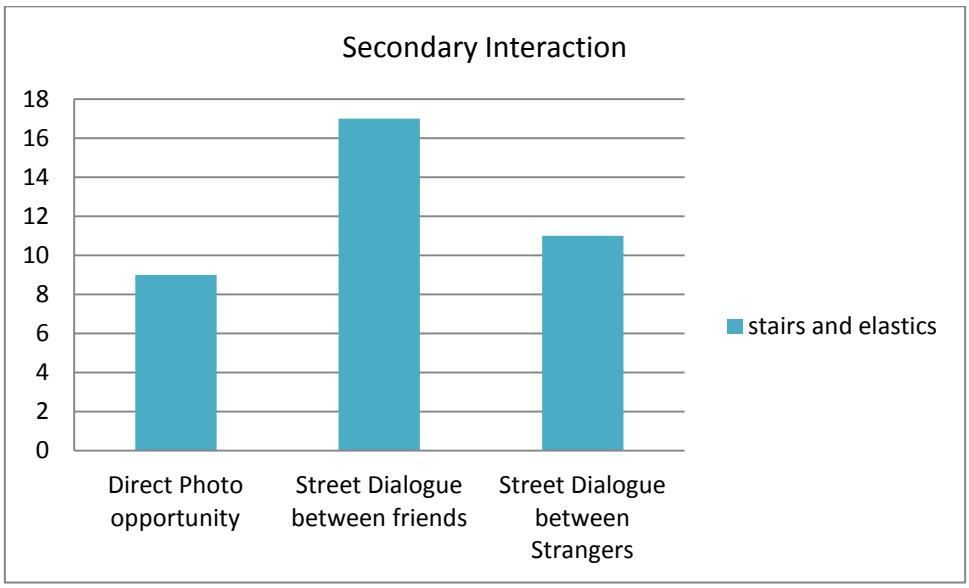
Level of User Interaction

Overall data comparison from elastics and stairway installation/ Total = 154 Subjects









Additional Follow on Actions Observed

- The use of the mobile phone, calling and texting (What looked like texting may have been interaction with social media on a smart phone).
- Displaying photos digitally through the use of smart phones
- Secondary Photo Opportunities (Photos of others with a design artefact)
- Social Media uploads
- There was an ambiguity of what a friend, was stranger, or acquaintance. (As such the results of dialogue between strangers and or friends may be questionable. At this stage of the investigation the collected data will be viewed as increased dialogue)

Appendix 5.3: Antonis Mitsingas – Social Psychologist – Lecturer – Frederick University
Interview 2 – Discussions of Implemented Designs.

Date: April 10th 2013 10.20am
Place: Frederick University, Limassol Campus, Cyprus

What is your personal opinion of the impact of the implemented designs? Do you believe the installation days made a difference during that period?
For a start it made a big difference during that time. I was also amazed and surprised by the elastics in the trees, I pass through that place 1 – 2 times a day and I never imagined you could make that place part of a design and then the process of the design.
As soon as I saw it I asked how people will play with it. After I saw people playing with it- all ages from myself to children, teenagers and young adults I felt like doing more, the more you see it, the more stimulation was created for myself to participate.
Also with the stairs it was the same thing, at the beginning there was an impression, then I saw people observing, and then interacting. Later on I would play more and more and finally at the end when it was gone it was sad it wasn't there.

Here is my first Draft for the framework for interaction analysis. Do you have any comments?
Yes the viewing and reacting watch the direct interaction but I believe it is important to say that maybe the viewing and reacting go on to surpass what the previous direct users have done in order to be better than the one before.
I noticed myself that if someone jumps for example on a trampoline you have a tendency to want to jump, but then you may want to surpass this jump and roll or twist.

The creation of dialogue, especially stranger's dialogue is a major aim of the research project and a state which I hope to observe. It is suggested that questions about the spaces in question along with the possibilities of intervened spaces would be discussed. What is your opinion?

What you are presenting is true; your stimulus can be created with or through the design in order to create a transaction. When we stimulate a group talking about the design, they will then go on to discuss surrounding issues and then eventually about ourselves. It happens when one is alone, or in groups, they talk about the stimulus and then the people go to the design.
In other life situations this is like walking you dog. Other people with a dog will stop and talk to you. You begin by talking about the dog, then each other, and then eventually you may become friends. Alternatively, without the dog it is more difficult to create the situation. Natural or artificial stimulus creates verbal and no verbal transactions. Through the stimulus there is usually a goal or goal created, people have the possibility to come together to fulfil that goal or fulfil some needs.

In terms of fulfilling the goal or need, creativity is my goal. What do you think?
In the beginning levels of creativity and curiosity – leads to fulfilling personal needs.

I propose that these short bursts of excitement can then influence our whole day, outlook or mood. Do you agree?
Yes they do, going back to the walk at the beach; it can change our whole mood. The need to go for this walk is the need to stimulate our curiosity and creativity.

Do you think people have lost the feeling of wanting to stimulate themselves?
No I don't think we will ever lose this
To start our nature is interested in stimulation, there have been many experiments when people have been put in environments with minimal stimulation and they cannot last more than 1-2 days within these environments because it is a basic human need. When we are near 0 stimulation people begin to hallucinate, this is ourselves creating stimulation where there is none. We need feedback of our existence.

Do you believe that stimulation may be suppressed due to contemporary life styles?
Yes but only for a short period of our lives, for people who experiencing depression they be interested in less stimulation but their thoughts and feelings are operating just as a different type of stimulation with less physical activity but their mental activity is still active. Changing our mood it is beneficial to our wellbeing.

The research project has 3 main aims firstly to stimulate interaction, can you comment on this?
Between 1-10 we can say that the projects reached an 8. They stimulated my interaction with you, which then stimulated the idea to bring children to experience the designs

A secondary aim was to create a sense of place and experience where currently nothing exists, can you comment on this?
Definitely place was created, it definitely became a place where you can experience.

Thirdly the project aimed to attract people to the space where currently very few people entered. Did the project manage to do this?
People stopped to take note, interact, play and definitely noticed. People who did not need to pass through the space went in. My observation was more than that of the students but the students were playing much more.

In terms of the design objects, when comparing the elastics and the balloons, were there any differences in your opinions? (Prior Installations took place at the university including a design with balloons)
The reactions were always different, but the more successful in the direct interaction was the balloon ball. I would imagine that the balloon installation should have had more around it. This would have been more successful with more stimulation. For example different, bigger/smaller etc maybe on their own it was not enough. When comparing that of children and adults, children experience more without fear or without a framework. Older people create a frame of behaviour and we prefer to work between these frames.

Is this mixed with personality?
Yes, but it is also mixed with seeing others reactions, especially when people were watching.

I have been playing with the idea and theories of the temporary space, why do spaces lose their appeal after a certain time? Do you have any suggestions?
Probably because we reach saturation, although there are games that we play, which for many people create dependency, for example cards and backgammon. We play games to spend time, have interactions and social exchanges such as talking, drinking and eating, they become part of culture. These types of games also create an attachment or become a passion. There is also the theory of partial reinforcement, you lose, and then win and then an attachment is created. It is known as behavioural modification and learning.

In the next experiment do you have any suggestions?
Yes, make sure to completely hide any observations. A lot of interesting items should be included to create a cause and effect with onlookers. For example 2- 3 trampolines and balloons, maybe incorporate sound with light? It would stimulate more – cause and effect! The encouragement to play more by having an outcome just like the piano stairs, when a sound or visual is created they may react more.

Any suggestions for how could I evaluate the next designs?
I agree with all your current methods. Interviews on the street could also give interesting feedback.

Do you have any other suggestions?
These projects should be created at least 2 – 3 times per year within the same spaces; people will enjoy them and look forward to the next interventions. Through different designs there will always be a surprise. Even creating something on the pavements could create change. It also depends on budget, but pedestrian areas are also a good suggestion. Narrow corridors could also be interesting.

Appendix 5.4: Designer Feedback Focus Group
Interviewer: Anna Louise Merry

Date: April 5th 2013 9.30am Frederick University
Place: Frederick University, Nicosia, Room 64

Interviewer: Can you give your feedback on the framework for the creation of the playful interactive experience and how you utilised it? You could additionally comment on how you believe it could be improved.
Person 1: It was a very interesting project brief that gave very specific rules for experience output. It was very precise in a manner of categories; this was both helpful for us and difficult at the same time.

Interviewer: How so? Could you elaborate?
Person 1: Helpful – It allowed us to have very precise rules to follow but there were some overlapping categories that could cause some confusion. This is what made it difficult. In this sense maybe it could be simplified to become more user friendly as a design tool.
Person 2: For me and my group (who worked on the elastic installation), the framework provided us with knowledge in how to utilise the lost space, without it we might not have even thought about play and might have gone down the path of pure aesthetics. In terms of the actual framework, the category of accessibility to the site is a little confusing as it is repetitive – This is also the same in the other categories.

Interviewer: Can you suggest what could improve the framework?
Person 2: Maybe the headings are specifically defined with leading words underneath to prompt the designer. This is the way our group looked at the framework by concentrating on the main group headings and then attempting to encompass the suggestions below.

Interviewer: Any other comments?
Person 3: Yes, I believe that it is really important tool that helped us to concentrate on the site in relation to the design rather than having to spend extra time researching what is playful design and its properties.

Interviewer: If there aren't any other comments we can move to the nest question. In relation still to the framework, for the question of the playful interactive experience, how did you find the overall design process?
Person 4: The design process in our group (stairs) followed the same process as all of our design processes we saw the framework as the extension to the project brief. The process itself became easier at the idea generation stage as the framework enabled us to edit out ideas which didn't fit the brief. For example, it couldn't be a co-operative experience.
Person 2: For me the design process was something new and exciting, the idea of the playful experience is not an event which occurs often, especially in groups as our public spaces are usually forgotten. It was an enjoyable experience to work on a project like this.
Person 5: For me, I found it difficult to trust that my design (stairs) would create successful playful interactions. It was a surprise to see how much people enjoyed the experience. Maybe that means that your framework, worked as the outcome, was so positive.

Interviewer: Thank you! In response to that, how do you see the successes and failures of the designs themselves, their implementation and how people reacted to them?
Person 1: My design (the elastics), I think was an overall success as we saw many people interacting. Many questions were asked and people seemed happy and excited. In terms of

aesthetics it really made the area look exciting! The only thing was that I did hear a comment saying that it reminded someone of that toilet paper! And that this had a negative effect on them wanting to interact.
Person 6: Mine (the stairs), was something that my group were really excited for, in the initial design, sketches and models, I thought it might fail, but in reality it was so successful. I will never forget right at the beginning of the day, the boy who was texting while walking up the stairs. When he finally looked away from his phone and saw the red lines, he got so shocked like he couldn't be there and then he couldn't stop laughing at himself!
Person 7: Remember, the ones who wouldn't walk on the lines?
Person 2: And then there were the ones would only walk on the lines!
Person 5: And the idiots who couldn't understand what it was all about!

Interviewer: How did you know that they didn't understand it?
Person 5: They asked us what it was about and said it was stupid.

Interviewer: Well at least they engaged – It actually prompted a form of social interaction that wouldn't happen otherwise. I have worked at Frederick for 4 years – I think I spoke to more people from different departments and backgrounds in one day that I have in 4 years.
A few people together – yes, us too!

Interviewer: Were they giving positive or negative comments?
Person 3: I would say a mixture, but mostly positive – almost everyone I spoke to gave a comment suggesting that life had been given back to the campus and that it was exciting.
Person 4: Me as well, people generally seemed excited that there was something new that they could engage in and talk about.

Interviewer: What about the way that we evaluated how people interacted?
Person 8: I don't think anything we did was bad but maybe some things could have been easier.

Interviewer: In what way?
Person 8: It was difficult to fill in the tick charts when a large group of people entered the space.

Interviewer: So, do you think if this was done again it would be better to set up cameras and analyse the data later?
Person 8: Yes, I think so, or you need more people working together.
Person 5: Some people had questions while filling the questionnaire would work better?

Interviewer: Do you think an onsite interview style questionnaire would work better?
Person 5: Yes, then anyone can ask questions and be more sure about their answers as this is something new.

Interviewer: You are all being positive although you are pointing out technical difficulties. Can you tell me about problems you encountered?
Person 2: It was a very early set up, but I understand why.
Person 6: There weren't many negatives – for me we didn't think enough about the removal of the design and we had trouble with the stickers.
Person 8: Apart from a few grumpy people I can't think of anything else.
Person 4: For me, it's that they had to be removed so quickly after 1 day.

Interviewer: But this was part of the project, people would get bored to see them for longer. You mentioned using camera for data collection in relation to the framework for interaction analysis. Is there anything you could change upon your observations to the framework?
Person 4: Yes, I was so confused with 'subtle' and view and reacting. (A few others agreed at this point) I saw people directly interacting, I saw people viewing and reacting, even people who were ambient and unaware but I couldn't place subtle.

Interviewer: I believe this is obvious from the tick charts as no one had selected subtle.
Person 6: We saw people taking photos, but what about photos with people with the object or selfies as we saw this

Interviewer: Good point – maybe this should be added. I think I have asked all of my questions now – Do you have any other comments to add?
Person 1: Yes, I thoroughly enjoyed the project and the idea of play.
Person 7: I would like to do it again because I think people really enjoyed the experience.
Person 4: If you do it again, I think it should be right in the middle of the city – somewhere like Ledra street (pedestrian shopping street in Nicosia) so even more people can see it.
Person 2: Maybe have a bigger budget for better materials.
Person 8: By the way, did you see that there are photos going on social media?

Interviewer: No, it would be great if you could send me the links. If no one has any further comments we can end there. Thank you for your participation.

Appendix: 5.5: Framework for the Creation of the Playful Interactive Experience (Version 2)

Accessibility (To the site)	Design Communication	Play Permission	User Interaction (Refer to framework for Interaction Analysis)	User Reaction	Design Suitability	Level of Permanence
Walkable	Familiarity	Utilisation of senses	Individual	Captivation	Diverse	Ephemeral
Safe	Attractive	Exploration of Creativity	Collaborative	Sensation	User Choice	Mobile
Connected	Engaging	Active	Promote Dialogue	Stimulation	Free Movement	Modular
Convenient	Random Encounter	Fun	Encourage Visual Communication	Fantasy	Safety	Fast &Direct Assembly
Proximity	Incentive	Discovery		Transfer	Disability Awareness	

Accessibility (To the site)	A public space which is not accessible in the first instance compromises experience output. A space which can be reached and entered easily has the potential to encompass an easily approachable, obtainable and appreciated design experience.
Walkable	A site should be suitable for walking in terms of proximity to the wider city and allow users to safely walk around and to the space.
Safe	Users are not exposed to any danger and there are no attributes which are likely to cause harm.
Convenient	A setting at the heart of the city, allowing the spatial experience to fit in with users daily plans and activities
Proximity	Site selection should be chosen due to nearness in relation to major elements of the city, taking into consideration the spatial setting and time it takes to reach the area.
Connected	The choice of site should have the ability to create a new city link, by providing a new method of access and communication to bring the community together.

Design Communication	The communication of any design is key to successes and failures. If a design is not comprehendible and inviting, users will fail to interact. It is vital that a welcoming and attractive atmosphere is created through surprise to encourage incentive, active participation, and onward transfer.
Familiarity	The closer and more familiar we are with something, the more relaxed we become, thus allowing the user to engage quickly.
Attractive	The playful experience must be attractive in terms of its final aesthetic and materiality. In addition it should aim to heighten the overall attractiveness of the surrounding area.
Engaging	To occupy and attract in terms of someone's interest and attention through the whimsical notions of play.
Random Encounter	The random encounter should be aimed at fun amusement but not encompass fear or unpleasant emotion.
Incentive	To provide a stimulus which motivates and encourages the onward process of interacting with the playful artefact.

Play Permission	Users should be invited to interact with the playful interactive designs through 'play permission' which encompasses a less serious and more imaginative purpose. Allowing the public to engage in an unexpected event with play eventually leads to a deeper engagement of interactivity with themselves, the object and others.
Utilisation of senses	The utilisation of the senses aims to immerse the user with an implemented design for greater enticement to interact and thus experience.
Exploration of Creativity	The invitation to examine the spatial experience through various mediums in order to explore personal creativity for the purpose of experience output.
Active	A physically engaging space promotes levels of interaction with the artefact and onward transfer.
Fun	The promotion of amusement though experiential output. Designers may use a humorous, colourful and entertaining solution in order to actively encourage enjoyment and pleasure.

Discovery	The pleasure from finding out the consequences of actions from play permission in terms of both aesthetics and use.

User Interaction	**Interaction is seen as a reciprocal action between the user and the playful experience and/or other users. It is the process which the designer should be concerned about the exchange of social activities that parallel with the design experience. (Refer to the framework for Interaction analysis)**
Individual	An individual experience encompasses the play permission to experience physically or intellectually
Collaborative	The collaborative is the notion of the multiple undertaking a physical or intellectual experience.
Promote Dialogue	Follow on actions support dialogue in the first and second hand manner, with the additional transfer of digital dialogue.
Encourage Visual Communication	Follow on actions encourage direct and secondary visual communication from photography with the artefact, users exploring the playful experience and the digital transfer to others and social media.

User Reaction	**User reaction aims for users to react instinctively in order to encompass the feeling of fun for the promotion of heightened sociability and spatial experience. The playful interactive experience should aspire to captivate the audience through design output in order to promote sensation, stimulation, fantasy and pleasure.**
Captivation	To captivate is to attract and hold the interest of the user.
Sensation	Sensation is the physical attributes of a project, linked to pleasure. For example, touching the materiality of a project.
Stimulation	The artefact itself should act as the stimulant to encourage active participation with the works and others.
Fantasy	The unexpected play experiences in the public realm, suggesting that we are imagine the improbable far from our normal spatial reality.
Transfer	The stage of incentive through to an actual interaction with the 'playful experience'. Additionally, transfer has the possibility to continue to further post interaction stages.

Design Suitability	**The appropriate design for the purpose of a 'playful interactive design' must be considered for a public setting as not to discriminate or offend within any situation.**
Diverse	Consider diversity within communities to allow a design suitable for all, crossing multiple backgrounds, ages, social status and genders.
User Choice	Users are to be given permission to interact but in no circumstances should they be forced.
Free Movement	Any design should allow free movement and never block or disturb a transitional path.
Safety	From implementation, materials, construction and design removal, public safety should be at the forefront of any design.
Disability Awareness	Disability awareness and consideration should be applied in any public design, supporting former parameters passageways should not be blocked and safety rules adhered to.

Level of Permanence	**The level of permanence required is that of a temporary and transient nature. Once a design has been implemented into the public realm for a significant amount of time its quality of interaction will decline.**
Ephemeral	Temporality suggests an ever-changing notion; an ephemeral experience is one of surprise and discovery in comparison with a public art monument which may be forgotten over time.
Mobile	An artefact which has the ability to be moved especially one that can be transported easily fulfils the aim of a mobile nature. Allowing more of the public to interact with the 'playful experience' at various locations within the same or other cities.
Modular	Modularity in design is the grouping of smaller parts that can be independently created and then put back together at different sites to give variety in design. This design flexibility allows for further experiences with a similar nature in varying sites.
Fast & Direct Assembly	A fast and direct assembly allows the public to have as little contact with a design as possible before viewing at its full potential.

Appendix 6.1: Marco Canevacci: Founder of Plastique Fantastique – Berlin Based Inflatable architecture group – Using the slogan of Urban Catalysers

Date: November 21st 2014 5pm
Place: Nicosia Old Town

Where does you inspiration for temporary architecture come from?
I moved to Berlin in 1991 from Italy, at this time Germany was in a state of collapse after the taking down of the Berlin wall. It was a time of anarchy which gave rise to many mixed feelings and emotions. There were no rules; it was unpredictable for at least 5 years on from 1991. Berlin at this time was a constantly changing city, it was then I realised that it is change which keeps us alive.
There were not many jobs at this time so to rent a large workshop was very cheap, I rented a large factory building by the river, but I needed to find a way to create spaces which would fill the larger one. This is when I started to explore plastic within spaces.

How does the element of play feature in your work?
The bubble itself is a tool to stimulate communication in the urban context, it creates curiosity and interaction. Play is extremely important as the ludical experiment; playful situations facilitate communication and diminish aggression and aggressive backgrounds.

The idea of 'serious play' reminds me of you your work how do you notice the difference between the play of adults and children?
Children will play anyhow; by allowing adults to play it will be a multiplication factor

I believe that your works appeals to all; despite age, background or culture is this an aim of yours?
I try to accommodate everyone, the bubble is something that belongs to our dreams and visions it is universal. We come from a bubble – we come from a womb. What we see through the bubble, we do not see in other types of architecture.

In terms of my research and the aims of my project (previously explained) can you comment on the importance of the experience of place?
I always admire a building which is showing itself as an architectural entity, but my background is as an architect so maybe this alters my view.

I would like to ask you about a project which specifically appeals to me and that is the Karl Marx Bonsai. This work has completely been done with a yellow film, why?
The idea behind the project was to implement a simple filter within the environment of the city. The reason for the colour yellow was due to the light in the country, the yellow was to emphasis an idea of light. The bubble acts as a border between inside and outside of the bench area, giving a feeling of both public and private space while at the same time creating a flow between the two.

In response to this is it fair to say that you are working with the idea of creating a physical boundary in order to diminish social boundaries?
Yes exactly, well put. It begins with an urban game, the people are sure because the 'wall' is only 2mm thick and is transparent. It creates an intimacy between its users due to the minimal and delicate architecture allowing them to interact with both the space and others.

Your focus is on the temporary nature, how do you feel about permanent public spaces such as the millennium square in Chicago?
Sometimes and in many cases places lose their appeal, buy sometimes we create ideas and architecture which radically changes the city.

Can you comment on the use of technology in your work?
The bubble is the basic structure, but we could also add light and sound as additional factors. The architecture we are working with is very low tech, but we spend many hours creating the forms of the design on CAD programs. What is most important is that the on lookers do not see this technology. It should look as simple and basic as possible.

Our contemporary way of experiencing a space such as the bubble is now through the lens, what do you think?
The lens is a frame we get used to, it is like a new point of view, we start to consider our surroundings according to the frame. It is interesting that we are still viewing through the same frame that we were viewing through the photo camera. The shape has not changed. For us the mobile devices could be changed – then our approach to space could be changed dramatically. This frame could easily change, multi directional is always interested. For example a selfie, but this is just a start of a device which is radically transforming our daily lives.

My definition of the playful interactive experience is; An event where one can spontaneously be involved in a temporal narrative that is non habitual in order to heighten an experience of place. What are your thoughts on this?
I completely agree – it is exactly this that I am doing and trying to achieve. You have it exactly correct.

It is important to address the safety aspects of any public design, how does it affect you?
In terms of vandalism I have never had any problems. In fact many of the sites where my work has been present have been troubled areas of cities, for example Malmo in Sweden. It was an area of huge aggression problems and rival gangs. During the implementation of the bubble there was no aggression and even the authorities commented on the lack of crime and heightened social interactions.
The main problems I have are bureaucrats and their concerns, but they never check the real safety problem and that is the wind. You must always have someone on site. We always need and have at least two people on site.

What happens if you have an emergency?
You open it up and in the worst case you cut it open like a c-section

Let's discuss the design of my group, the DNA Tube. We did not use technology in our design, we used a much more back to basics approach; does this make it less successful than the bubbles which many hours were spent on CAD drawings?
No I love the tube, and a basic paper model was all it needed, it was back to basics, we could have also have planned it only in our heads.

What are your thoughts of our outcome in terms of your philosophy?
To be honest I do not know a lot about your site, but I observed the way people were only sitting around the castle. If you put an accent at the entrance of the castle it should entice users. You will see maybe people will have fun and diminish boundaries, it is a new approach to daily lives, and you are using the public space in new ways. The question then is what will

happen and what will develop? It can just be more than just an ephemeral spiral tunnel; you have given a new function to the cannon. From my experience I am convinced it will attract many people of different backgrounds. Not only tourists or passersby but also the people living and working there, when you work somewhere you have a completely different approach to a space. For example the photographic work of Sophia Calle

Is there a way that we could make the project modular?
Adding more and more pieces is the best way to change the design for a new site, you can also squeeze it, turn it and twist it depending on a different space. The main idea is that it is better to keep the structure simple.

In terms of the temporary, how long will the project last?
The weather conditions are the primary concern, the tape is high quality, so it should last atleast a few weeks, you can also repair it.

How does the project reflect in cost as the materials were supplied by Urban Gorillas?
You used the most basic materials and labour. It was approximately 50 Cents per meter of clear nylon and 75 Cents for the white nylon per sq meter additionally each roll of tape was 8 Euros. Clear = 8m x 1 =8m2 x 9 =72m2 =36 euros White = 8m x 2 = 16m2 x10 + 4m2 circles =123 eurosmTape 8 x 6 = 48 =207 euros – free labour

How quick will the structure be to assemble on site?
Once put in place it should only take 20 minutes to inflate, weights then need to be added; this takes more time than anything else. We try to be quick as possible to create surprise.

Is there a focus on flow and movement – can you have 2 exits?
It depends on the forms, for the spiral I would prefer to have only one. If you have two you need a stronger ventilator. In a high end project you may use a revolving door.

Appendix 6.2a: Pre-Design Focus Group, Limassol

Interviewers:

1. Author: Anna Merry
2. Head of Research at Urban Gorillas: Rene Carraz

Date: February 4th 2015 10am
Place: Frederick University, Limassol Camous, Room 103

Interviewers – Introduces themselves and asks others to introduce themselves

Interviewers: First I would like to know what is a public space?
Participant 1: we have many public spaces with no use. For me, a public space is where people can go any time of day and it's free.

Interviewers: What type of space qualifies as public space for you?
Participant 1: The old town has many spaces.

Interviewers: For you, any example?
Participant 2: The same
Participant 3: Molos – around the port – it's by the sea, benches and sculptures and places you can walk.
Participant 4: Somewhere like where shops are, town square – somewhere anyone can go.
Participant 5: The marina
Participant 6: Yes, I agree but we don't have too many spaces – the molos really is the only place you can enjoy with trees and benches and the sea. There is nature. There is a feeling. The other spaces are too commercial and for these aren't public. I should go to public pace to relax, not to have this idea in my head to buy something. I don't want to have to buy a coffee.
Participant 8: The same, I agree.
Participant 7: Also the park, but midnight it is difficult to go.

Interviewers: Why can't we to the park at night, is it closed?
Participant 7: No, but it can be scary and dangerous

Interviewers: An example?
Participant 2: People taking drugs.
Participant 9: Somewhere people spend time

Interviewers: Is the mall public?
Participant 9: It's closed, so not.

Interviewers: How often do you go to public space?
Participant 1: Every week
Participant 3: 2 times per week,

Interviewers: Have you spent much time in the other cities, do you think you would use public pace more or less in other cities?

Interviewers: Would you go to a public space in different cities?
Participant 2: Every time I go to Paphos I go to the sea front area.

Interviewers: Do you interact on public space? Or do you just go with friends and relax?
Participant 2: Usually I just go to sit because there is nothing else to do.
Participant 7: Usually I go with friends and sit and relax.
Participant 4: With friends.

Interviewers: Now we will bring an event in the city, how would you like to interact in the city – what would attract you? Would an activity, would an event bring you there? What would be your inventive? In an ideal world
Participant 2: If there was an outdoor exhibition (Art)
Participant 3: Concert/ music.
Participant 2: Interactive installations like things that Anna has discussed with us. I can't go and play in a child's playground, but I would like to have that feeling again.

Interviewers: What is play for you in the city?
Participant 7: Any type of activity we can take part in and that we can feel we can play with it.

Interviewers: How would you like to play in public space? What urban events would make you play?
Participant 6: To have something fun, big, and colourful.
Participant 7: Follow something
Participant 1: Something new
Participant 3: Something with texture to touch and follow

Interviewers: Basically, if you went into an area everyday and there was something new you would react? If I brought something ugly would you play? What is new? What is playful?
Participant 7: Something with colours that is nice to look at.

Interviewers: What about more than just sight? What about all the senses?
Participant 1: Something that bounces – trampoline

Interviewers: If you saw a bouncy castle, would you play with it?
A few people: Of course

Interviewers: You don't think there is an age difference? Would your parents play with it?
Participant 3: My parents will.

Interviewers: As far as events are concerned, let's go for creativity – how can you bring creativity in the city?
Participant 7: I have an example – columns in the road to stop people parking – artists have been invited to go and paint a column.
Interviewers: Also the graffiti project in old Limassol when the street was free

Interviewers: What about creativity of the average person? What do you think would interest them?
Participant 8: Recycling a collaborative project for people to bring old things and make something

Interviewers: Explained the inflatable and video shown – asked how people will react?
Participant 6: I think people will like to go in and play, to run and have fun.

Interviewers: What do you think will be the impact?
Participant 2: I think it will be a shock to people, we are not used to installation like this, I think it will bring people closer and they will start to talk to each other.
Participant 8: The first thing to do is to take a picture, probably a selfie.

Interviewers: So social media wise, this is good.
Participant 6: I will run inside to take the selfie. Then I will get someone to take him/ her jumping and then upload it.
Participant 1: I would go inside. I will want to go inside.
Participant 4: Go inside to touch
Participant 5: Go inside and touch as well.

Interviewers: Will you talk to people around or only with friends on social media?
Everyone laughed
Participant 2,4,5: Both

Interviewers: Just to add, if you sae this bubble and you were so excited, would you call each other to say come down and see this?
Many: Yes!

Interviewers: Friends or parents?
Participant 1: Both

Interviewers: Have you ever experienced anything like this before in a city?
All: No

Interviewers: Do you know anyone who has? Or is this something really new?
Participant 7: It is something really new.

Interviewers: What type of activities would you like to see?
Participant 1: Lights
Participant 2: Music

Interviewers: We want to attract, so what should be more visible? Art or music?
Participant 1: More colour or visual effect?
Participant 2: Game or to remove us from normal life.

Interviewers: Sometimes do you see things that children are doing and secretly you want to do the same? But it's not socially acceptable.
Many: Yes
Interviewers: When you go to public space do you talk to strangers?
All: With friends

Interviewers: Do you talk to people you don't know in the city?
Participant 7: If we have something in common.

Interviewers: So like parents talking to parents. The bubble aims to create opportunity to talk, do you think you would talk?
Few people: Yes

Participant 8: Maybe in the bubble, there is an activity within the bubble, so that people have to talk.

Interviewers: Do you think we have a catalyst that you can think of?
All: no answer

Interviewers: Other people have said coffee, but it's not a public space.
Participant 2: Sometimes, if you are playing cards you might play with the table next to you.

Interviewers: Have you ever been to the castle?
Participant 1: 10 years ago
Participant 4: People never
Participant 3: At primary school
Participant 2: I go three times a week, but for coffee

Interviewers: It is a very popular area for eating and drinking.

Interviewers: Could you please explain the area to me?
Participant 1: Restaurants and cafes are around.

Interviewers: Can you go just to sit?
Participant 3: There are some benches

Interviewers: If I go without money, what are my options?
Participant 4: 3 benches
Participant 7: There is a big empty square with benches around.

Interviewers: Who are sitting on the benches?
Participant 1: Older people
Participant 7: Tourists

Interviewers: The cruise ships dock next to here

Interviewers: So you are going to the area often but not using it as a public space? Is the reason not because you cannot?
Participant 7: Everyone is in the cafes

Interviewers: What is your perception of the castle?
Participant 7: It is closed at night.

Interviewers: We want to raise awareness of the castle, as people probably don't go as there is nothing to do. Also, we have to pay to go inside. How do you go to the area?
All: car!

Interviewers: Is the area clean?
Participant 1: Yes, clean
Participant 7: Also safe

Interviewers: Are you happy with public space in Limassol on a scale of 1-5?
All: 3,3,2

Interviewers: Is it better or worse than other cities?
Participant 1: Much better

Interviewers: And you say Limassol is the best, but only give it a 2? That says a lot.
Participant 7: Maybe Nicosia is better because of the old city.

Interviewers: Informed that the data collected may be used in a anonymous way in any publications or for research output.
Participant 1: I was thinking since we are trying to make people come and see could you put a continuation into the castle?

Interviewers: So it could be half inside, half outside. Thank you again for all of your help and suggestions.

Appendix 6.2b: Pre Design Focus Group, Nicosia

Interviewers:

1. Author: Anna Merry
2. Head of Research at Urban Gorillas: Rene Carraz
3. Principal Designer and Architect at Urban Gorillas: Veronika Antoniou

Date: February 10th 2015 10am
Place: Frederick University, Nicosia. Campus, Room 64

Interviewers – Introduce themselves and asks others to introduce themselves

Interviewers: We want to test some ideas with you. This is for the purpose of academic research. So, I want to ask you a few questions to see if we are talking about the same thing. What is a public space to you? Can you give me an example?
Participant 1: A public space is a place without boundaries, an open space which everyone can go.
Participant 2: It has a lot of activities.

Interviewers: What type of activities?
Participant 2: A park, but just a space you can walk or do something it's for more people that 1 or 2.

Interviewers: Can you go anytime in a public space?
Participant 3: It depends – if it is an open area, yes.

Interviewers: Can you have public space that is not open?
Participant 3: Yes, a mall is a public space, but it closes.

Interviewers: So, the mall is a public space. Can you give me more examples? So far you've said the park, the mall. What else?
Participant 1: Squares
Participant 3: Streets
Participant 4: Museums
Participant 3: But a museum you pay entrance – so it's more private.

Interviewers: So you need to pay, but it's for everyone so is it truly public?
Participant 3: Maybe no.

Interviewers: If you pay, is it a public space?
Participant 1: Yes

Interviewers: The mall, you can go freely but you don't pay, why would you go if don't have money?
Participant 5: For a walk

Interviewers: Is outdoor coffee a public space?
Many: No
Participant 6: Public, but it belongs to someone.
Participant 3: Like a bar of cafe belongs to an owner.

Interviewers: The mall belongs to someone.
Participant 3: But it is designed to be a public space.

Interviewers: Can you go at night?
Participant 3: Until cinema finishes.

Interviewers: But you can go to a park at night.
Participant 1: It depends on rules and regulations.

Interviewers: So, basically a public space is somewhere you can go freely and openly. Parks, beach, street, etc and mall semi-private. So how often do you go into public space in your daily life? Every day? Week?
Participant 1: I go to pedestrian road everyday as a transition, but not to hang out.

Interviewers: Do you go to public space to hang out?
Participant 3: No, we go to cafe or bars but not to sit in public space.

Interviewers: Do go somewhere that you don't have to pay?
Participant 2: Sometimes, but not often – such as a walk on the beach, or to Ledras street (pedestrian shopping street).

Interviewers: But do you sit on a bench or read a book, for example?
Participant 3: No, you go for a coffee; I would only do this at the beach.

Interviewers: Did you go to parks in the last 12 months.
Participant 6: Yes, but just to take photos for design process.

Interviewers: What type of activity do you do in public space to enjoy public space?
All: No one answered

Interviewers: Do you go in a public space to have fun? To run, to sit on a bench, to do a free activity in the city?
All: No one answered

Interviewers: What would you like to see in the city to make you go there?
Participant 2: Something that you want to see or do.

Interviewers: What would it be?
Participant 2: Something interactive.

Interviewers: It could be related to sport or physical activity – It could be purely visual, could be Art.
Participant 3: More an activity, to be worth going.

Interviewers: An activity with more people, private or lonely.
Participant 3: With people, if I wanted to be private or lonely, I would stay home, somewhere I could go with a friend to do something.
Participant 1: Some place you could open up to artists without implications on artists which would then invite others.
Interviewers: A place to climb would be nice.
Participant 1: But this would require safety.

Interviewers: Don't let your imagination be hindered by rules and regulations at this stage.
Participant 1: A skate park in the city for free use.
Participant 3: Better parks, not just few trees and few games for kids. Some activities are needed for all public – parks need an upgrade.

Interviewers: We will soon put something big in the city that will hopefully change your opinion on public space. What would you like to see? It will be a huge installation to allow public interaction.
Participant 7: An open gallery was interesting in Oxford. But it wasn't done well sometimes. On the 1st day of every month a notice was placed within the university saying and showing what would be installed that month and if you were interested you could go. As a design student I would go, but a normal member of the public may see the images and feel like this was enough.

Interviewers: If you were in charge of our installation what would you bring?
Participant 5: Something for all ages.

Interviewers: Do you think different ages mix in Cyprus, especially in public space?
Participant 4: Not really.

Interviewers: Do you meet with other people in public space, especially foreigners? Do you socially interact with foreigners in Cyprus?
Participant 4: When you live abroad, you see this more than you do in Cyprus, because Cypriot people are more closed.
Participant 3: When we go to school and university, we are obligated to meet new people. This is really the only time I can think of.

Interviewers: If we put an event in the city, would you be willing to meet new people? Or would you just see and then leave with your friends, what would you need?
Participant 3: Activity that puts different people together to obligate them to talk and meet.

Interviewers: For social media – would you add an experience?
Participant 3: I would use the phone first, take photos and upload.

Interviewers: If you see something very different in the city who would take you phone and take a picture?
All: everyone would
Participant 4: And show to others and they will go there.

Interviewers: So, it will be part of your socialising to go there, to take pictures and exchange.
Participant 4: We can't say for sure, but we usually take photos.

Interviewers: And would you talk to the people around or just interact with social media?
Participant 4: I wouldn't just take a photo, but if I know them, yes, but not show it to a stranger.

Interviewers: Would everyone put their photo on social media?
Participant 3: Everyone can see on Facebook , not individual – multiple.

Interviewers: We propose a large inflatable – as big/ if not bigger than this room. What would you do with it? Touch it?

Participant 3: I would touch it, I would like to play with it but others would be afraid.
Participant 1: It all depends on the person's personality, as they may think that they are interfering in a bad way.

Interviewers: So it all depends.
Participant 2: The picture and to touch is just as important, but mainly photo first.
Video of workshop is shown so that participants can understand the Inflatables further. There was then a discussion of how to call an inflatable in Greek as to make the questionnaire clear in both languages. The questionnaire translation was additionally tested in Greek. The question 'Did you play today?' was additionally asked in Greek to test translation. It was concluded that a definition of play may be required.

Interviewers: What is play for everybody?
Participant 3: For me play is seen as an activity for children, I don't agree but I believe this is what people, especially Cypriots think.

Interviewers: But as a questionnaire we don't want different meanings. So, if I ask you, did you play today?
Participant 1: For me, play means interacting with an object and deriving fun from it. May I ask a question? Is this question to derive if a person has interacted or is it to find out if they had fun with it?

Interviewers: To find out if they had fun – as there are other questions relating to interaction.

Interviewers: Play example? Would it help?
Participant 1: Maybe no if you are going for instant answer.

Interviewers: Maybe was this a playful experience for you?
Again, discussions of Greek translation.

Interviewers: Thank you everyone for your participation today. Please, come and join us at the events.

Appendix 6.3: Count up of observed users pre and during event

Count up of observed users Week 1, Limassol

Limassol						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	13th March	27th March	**Comparison**	13th March	27th March	**Comparison**
Number of Adults	205	390	**>185**	235	388	**>153**
Number of Children	5	25	**>20**	13	32	**>19**
Total	210	415	**>205**	248	420	**>172**
Adults entering	26	111	**>85**	33	208	**>175**
Percentage	13%	28%	**N/A**	14%	54%	**N/A**
Children Entering	1	11	**>10**	1	16	**>15**
Percentage	20%	44%	**N/A**	8%	50%	**N/A**
Total Entering	27	122	**>95**	34	224	**>190**
Percentage	13%	29%	**N/A**	14%	53%	**N/A**
Total Entering Inflatable	N/A	80	N/A	N/A	141	N/A
Total overall Percentage	N/A	19%	N/A	N/A	34%	N/A
Total Entering ground %	N/A	66%	N/A	N/A	63%	N/A

Limassol						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	14th March	28th March	**Comparison**	14th March	28th March	**Comparison**
Number of Adults	552	915	**>363**	730	1049	**>319**
Number of Children	148	69	**<79**	146	71	**<75**
Total	700	952	**>252**	876	1120	**>244**
Adults entering	61	226	**>165**	42	456	**>413**
Percentage	11%	25%	**N/A**	6%	43%	**N/A**
Children Entering	12	19	**>7**	6	50	**>44**
Percentage	8%	28%	**N/A**	4%	70%	**N/A**
Total Entering	73	245	**>172**	48	496	**>448**
Percentage	10%	26%	**N/A**	5%	44%	**N/A**
Total Entering Inflatable	N/A	103	N/A	N/A	156	N/A
Total overall Percentage	N/A	11%	N/A	N/A	14%	N/A
Total Entering ground %	N/A	42%	N/A	N/A	32%	N/A

Count up of observed users Week 1, Nicosia

Nicosia						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	7th March	4th April	**Comparison**	7th March	4th April	**Comparison**
Number of Adults	118	341	**>223**	85	503	**>418**
Number of Children	2	48	**>46**	2	55	**>53**
Total	120	389	**>269**	87	558	**>471**
Adults entering	3	504	**>501**	0	238	**>238**
Percentage	2%	60%	**N/A**	0%	47%	**N/A**
Children Entering	2	46	**>44**	0	14	**>14**
Percentage	100%	96%	**N/A**	0%	25%	**N/A**
Total Entering	5	250	**>245**	0	252	**>252**
Percentage	4%	64%	**N/A**	0%	45%	**N/A**
Total Entering Inflatable	N/A	87	N/A	N/A	66	N/A
Total overall percentage	N/A	22%	N/A	N/A	12%	N/A
Total Entering ground %	N/A	35%	N/A	N/A	26%	N/A

Count up of observed users Week 2, Limassol

Limassol						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	20th March	27th March	**Comparison**	20th March	27th March	**Comparison**
Number of Adults	392	390	**<2**	213	388	**>175**
Number of Children	24	25	**>1**	8	32	**>24**
Total	416	415	**<1**	221	420	**>199**
Adults entering	49	111	**>62**	40	208	**>168**
Percentage	13%	28%	**N/A**	19%	54%	**N/A**
Children Entering	2	11	**>9**	2	16	**>14**
Percentage	8%	44%	**N/A**	25%	50%	**N/A**
Total Entering	51	122	**>71**	42	224	**>182**
Percentage	12%	29%	**N/A**	19%	53%	**N/A**
Total Entering Inflatable	N/A	80	N/A	N/A	141	N/A
Total overall Percentage	N/A	19%	N/A	N/A	34%	N/A
Total Entering ground %	N/A	66%	N/A	N/A	63%	N/A

Limassol						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	21st March	28th March	**Comparison**	21st March	28th March	**Comparison**
Number of Adults	383	915	**>532**	593	1049	**>456**
Number of Children	40	69	**>29**	51	71	**>20**
Total	423	952	**>529**	644	1120	**>476**
Adults entering	37	226	**>189**	48	456	**>408**
Percentage	10%	25%	**N/A**	9%	43%	**N/A**
Children Entering	5	19	**>14**	11	50	**>39**
Percentage	13%	28%	**N/A**	21%	70%	**N/A**
Total Entering	42	245	**>208**	59	496	**>437**
Percentage	10%	26%	**N/A**	9%	44%	**N/A**
Total Entering Inflatable	N/A	103	N/A	N/A	156	N/A
Total overall Percentage	N/A	11%	N/A	N/A	14%	N/A
Total Entering ground %	N/A	42%	N/A	N/A	32%	N/A

Count up of observed users Week 2, Nicosia

Nicosia						
Time	12pm – 1pm	12pm – 1pm	**Data**	3pm – 4pm	3pm – 4pm	**Data**
Date	14th March	4th April	**Comparison**	14th March	4th April	**Comparison**
Number of Adults	319	341	**>22**	307	503	**>196**
Number of Children	36	48	**>12**	35	55	**>20**
Total	355	389	**>31**	342	558	**>216**
Adults entering	6	504	**>498**	0	238	**>238**
Percentage	2%	60%	**N/A**	0%	47%	**N/A**
Children Entering	0	46	**>46**	0	14	**>14**
Percentage	0%	96%	**N/A**	0%	25%	**N/A**
Total Entering	6	250	**>244**	0	252	**>252**
Percentage	1.50%	64%	**N/A**	0%	45%	**N/A**
Total Entering Inflatable	N/A	87	N/A	N/A	66	N/A
Total overall percentage	N/A	22%	N/A	N/A	12%	N/A
Total Entering ground %	N/A	35%	N/A	N/A	26%	N/A

Appendix 6.4: User Actions Compared Pre-Design and During Design Implementation

Pre Design and During Design Actions Compared Limassol Friday 12pm – 1pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	2	2%	2	3%	14	11%	2	4%	22	12%	21	14%
Talking	20	20%	32	40%	55	45%	12	23%	64	36%	27	18%
Observing Events	27	27%	15	19%	32	26%	14	26%	77	43%	80	54%
Sitting	4	4%	4	5%	5	4%	8	15%	5	3%	0	0%
Playing	3	3%	21	26%	0	0%	1	2%	0	0%	8	5%
Other	43	44%	6	7%	17	14%	15	28%	11	6%	13	9%
Total Number Observed	99		80		123		53		179		149	

Pre Design and During Design Actions Compared Limassol Friday 3pm – 4pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	2	7%	19	24%	9	9%	2	3%	2	5%	37	21%
Talking	6	21%	7	10%	54	56%	8	11%	4	10%	39	22%
Observing Events	2	7%	14	18%	12	12%	21	28%	5	13%	30	17%
Sitting	4	14%	5	6%	4	4%	7	10%	11	27%	7	4%
Playing	3	10%	0	0%	2	2%	0	0%	0	0%	0	0%
Other	12	10%	33	42%	16	17%	35	48%	18	45%	7	4%
Other (Watching Performance)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	58	33%
Total Number Observed	29		78		97		73		40		178	

Pre Design and During Design Actions Compared Limassol Saturday 12pm – 1pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	9	15%	4	9%	32	17%	11	6%	23	18%	16	11%
Talking	0	0%	5	11%	75	41%	91	46%	22	17%	38	27%
Observing Events	9	15%	11	24%	50	27%	75	38%	69	53%	78	55%
Sitting	7	12%	1	2%	13	7%	11	6%	5	4%	2	1%
Playing	6	11%	0	0%	0	0%	5	3%	0	0%	2	1%
Other	28	47%	25	54%	14	8%	3	1%	11	8%	6	4%
Total Number Observed	59		46		184		196		130		142	

Pre Design and During Design Actions Compared Limassol Saturday 3pm – 4pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	16	43%	2	3%	26	7%	9	15%	9	18%	29	9%
Talking	0	0%	0	0%	168	44%	18	29%	11	23%	117	36%
Observing Events	2	6%	23	31%	111	29%	12	19%	14	29%	163	50%
Sitting	0	0%	2	3%	43	11%	6	10%	3	6%	12	4%
Playing	0	0%	4	5%	7	2%	0	0%	4	8%	10	3%
Other	19	51%	43	58%	23	6%	17	27%	8	16%	7	2%
Total Number Observed	37		74		378		62		49		329	

Pre Design and During Design Actions Compared Nicosia Saturday 12pm – 1pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	0	0%	0	0%	26	12%	0	0%	5	11%	1	1%
Talking	0	0%	0	0%	82	39%	2	1%	0	0%	41	25%
Observing Events	3	60%	5	83%	87	41%	12	63%	27	56%	113	68%
Sitting	0	0%	1	17%	5	2%	0	0%	0	0	0	0%
Playing	2	40%	0	0%	8	4%	0	0%	6	12%	3	2%
Other	0	0%	0	0%	4	2%	5	26%	10	21%	8	5%
Total Number Observed	5		6		212		19		48		166	

Pre Design and During Design Actions Compared Nicosia Saturday 3pm – 4pm

	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Taking Photos	0	0%	0	0%	20	12%	0	0%	1	2%	16	11%
Talking	0	0%	0	0%	68	40%	3	23%	8	15%	69	50%
Observing Events	0	0%	0	0%	48	28%	6	46%	22	41%	37	27%
Sitting	0	0%	0	0%	11	6%	0	0%	2	4%	0	0%
Playing	0	0%	0	0%	13	8%	0	0%	9	17%	4	3%
Other	0	0%	0	0%	11	6%	4	31%-	11	21%	12	9%
Total Number Observed	0		0		171		13		53		138	

Appendix 6.5a: Behavioural Mapping, User Stationary Actions, Limassol

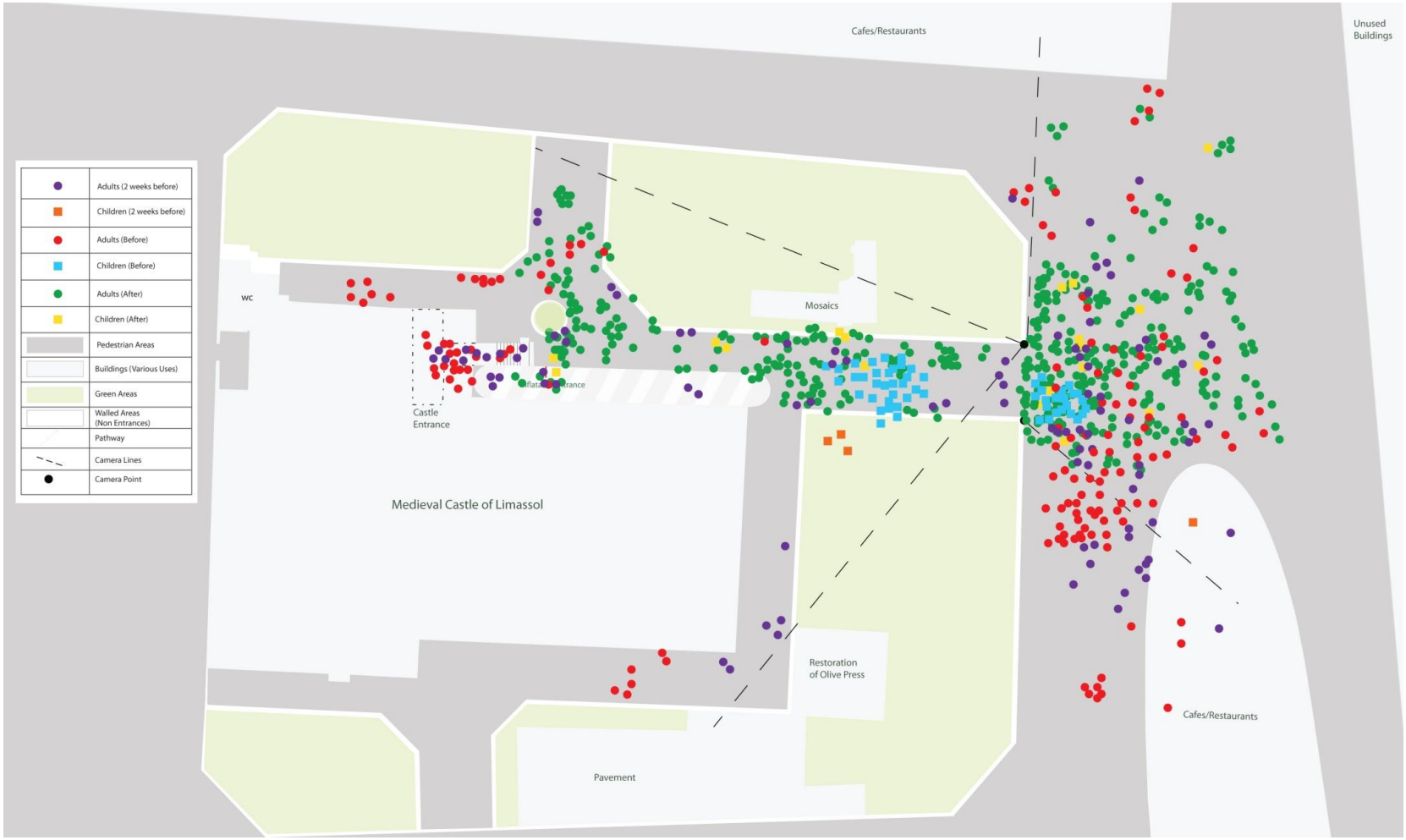
Friday 13th March 12pm – 1pm (Pre-Design)

Friday 20st March 12pm – 1pm (Pre-Design)

Friday 27th March 12pm – 1pm (Design Implementation)

Friday 13th March 12pm – 1pm (Pre-Design) compared to Friday 27th March 12pm – 1pm (Design Implementation)

Friday 20st March 12pm – 1pm (Pre-Design) compared to Friday 27th March 12pm – 1pm (Design Implementation)



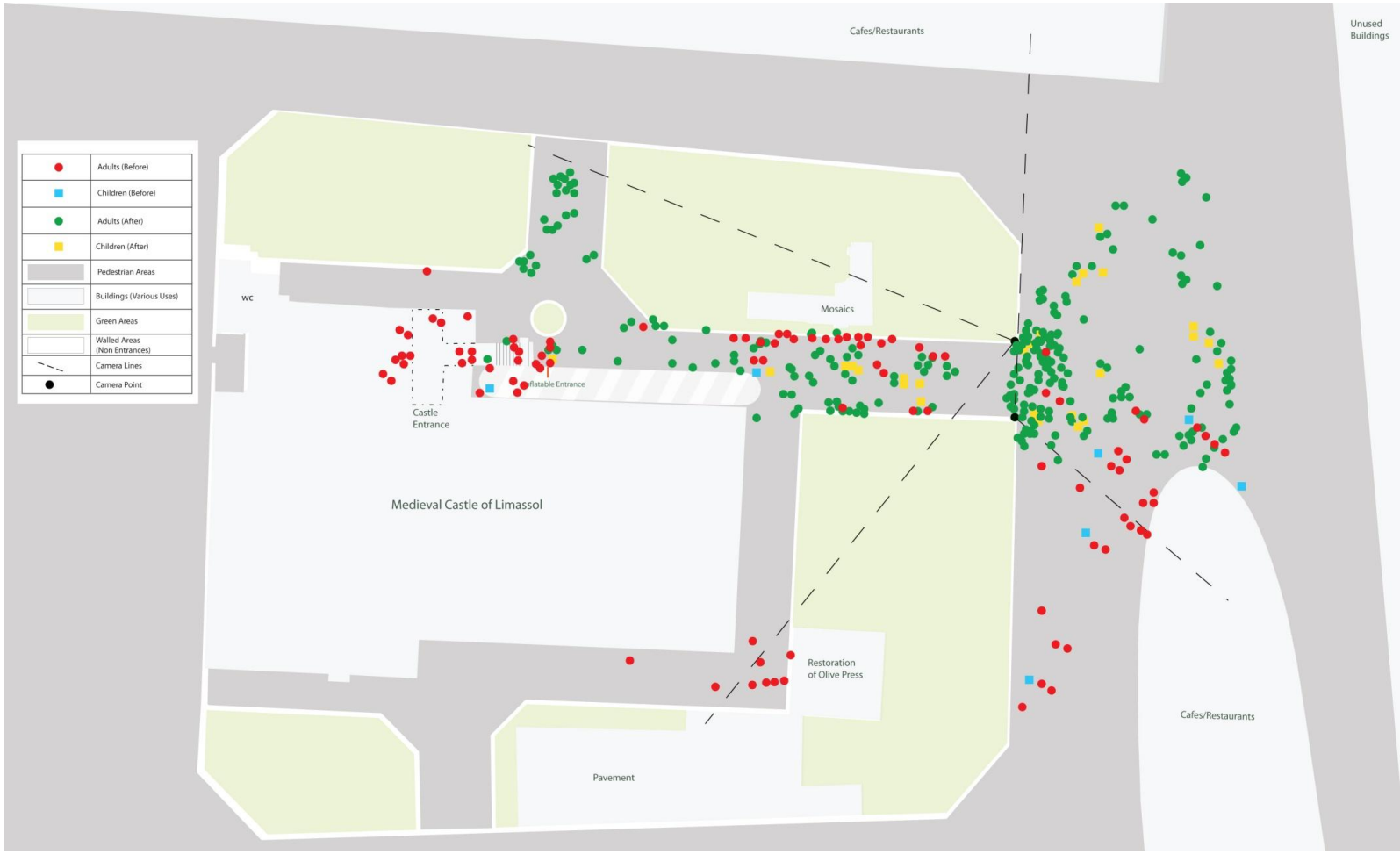
Friday 13th March 12pm – 1pm (Pre-Design)/Friday 20st March 12pm – 1pm (Pre-Design) compared to Friday 27th March 12pm – 1pm (Design Implementation)

Friday 13th March 3pm – 4pm (Pre-Design)

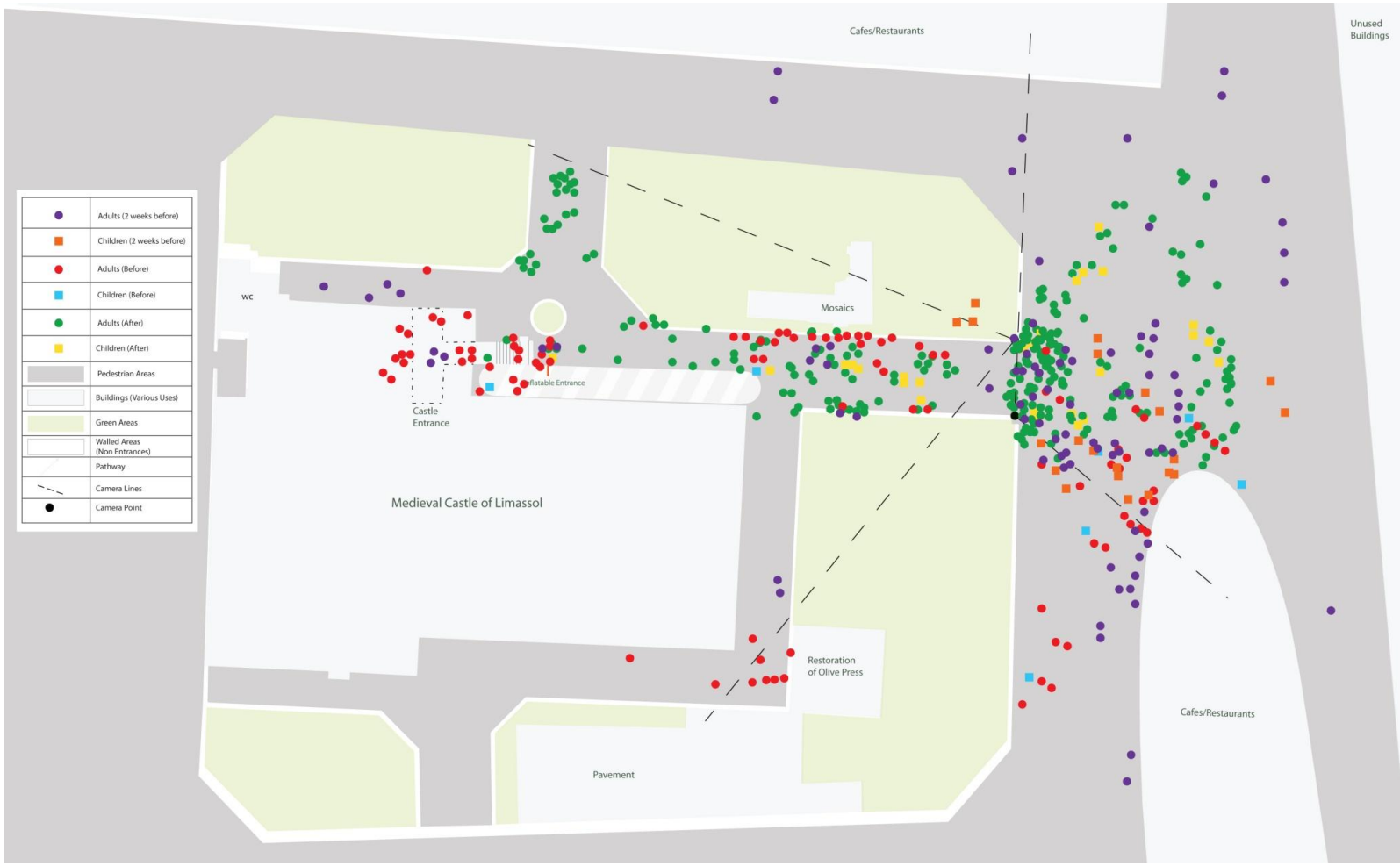
Friday 20st March 3pm – 4pm (Pre-Design)

Friday 27th March 3pm – 4pm (Design Implementation)

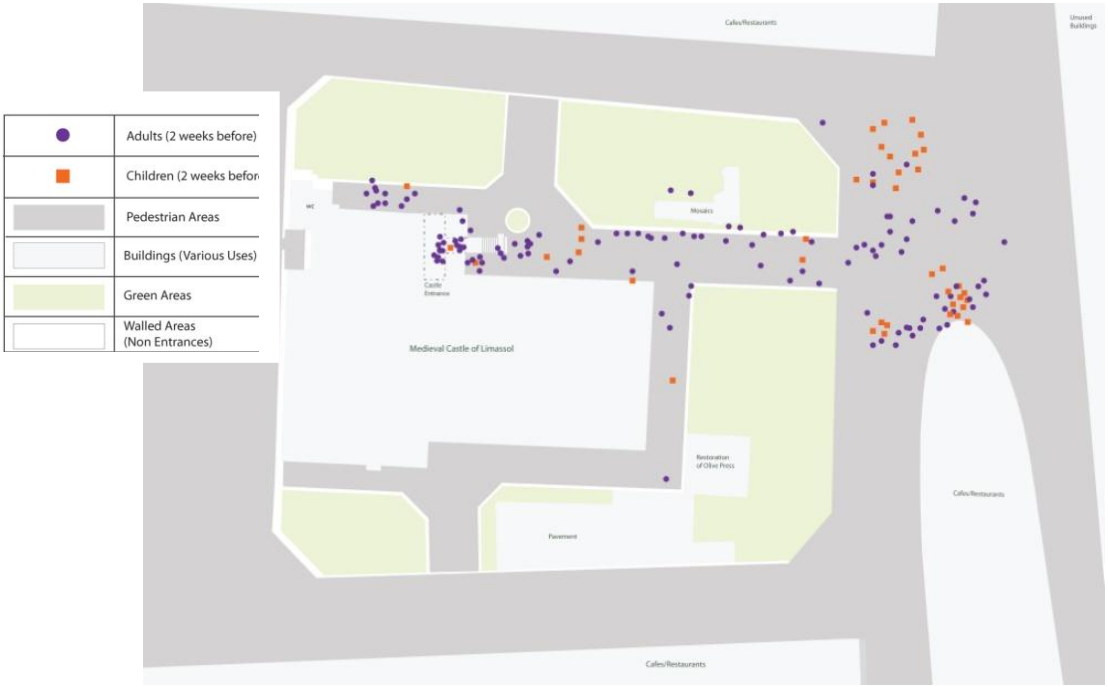
Friday 13th March 3pm – 4pm (Pre-Design) compared to Friday 27th March 3pm – 4pm (Design Implementation)



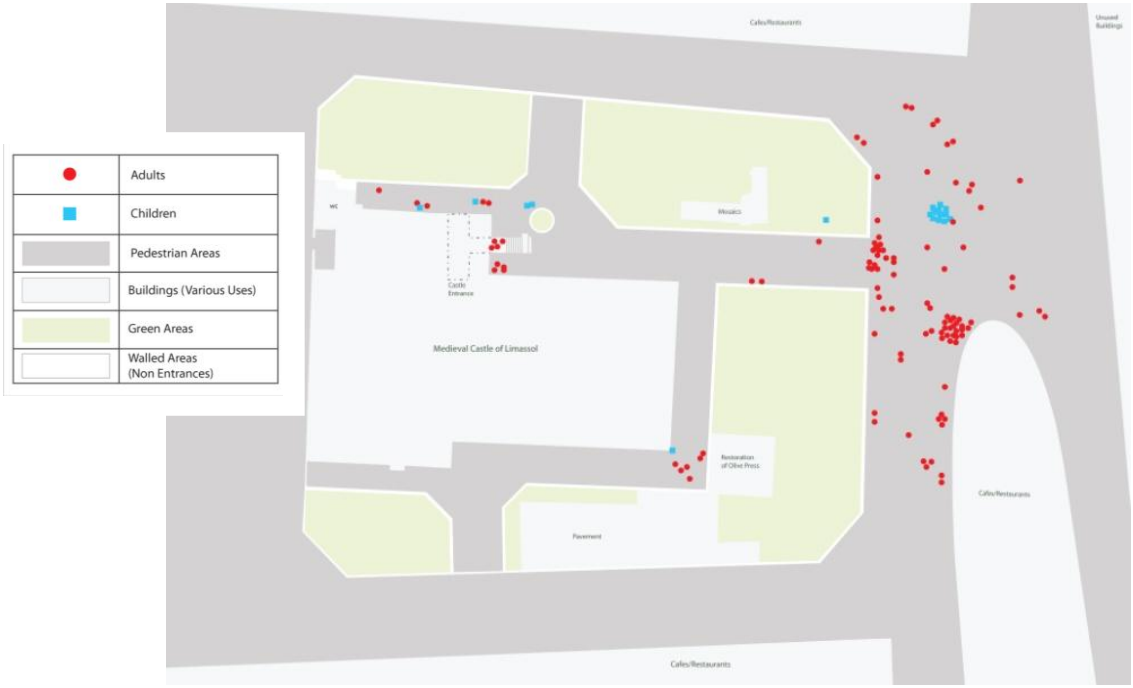
Friday 20st March 3pm – 4pm (Pre-Design) compared to Friday 27th March 3pm – 4pm (Design Implementation)



Friday 13th March 3pm – 4pm (Pre-Design) /Friday 20st March 3pm – 4pm (Pre-Design) compared to Friday 27th March 3pm – 4pm (Design Implementation)



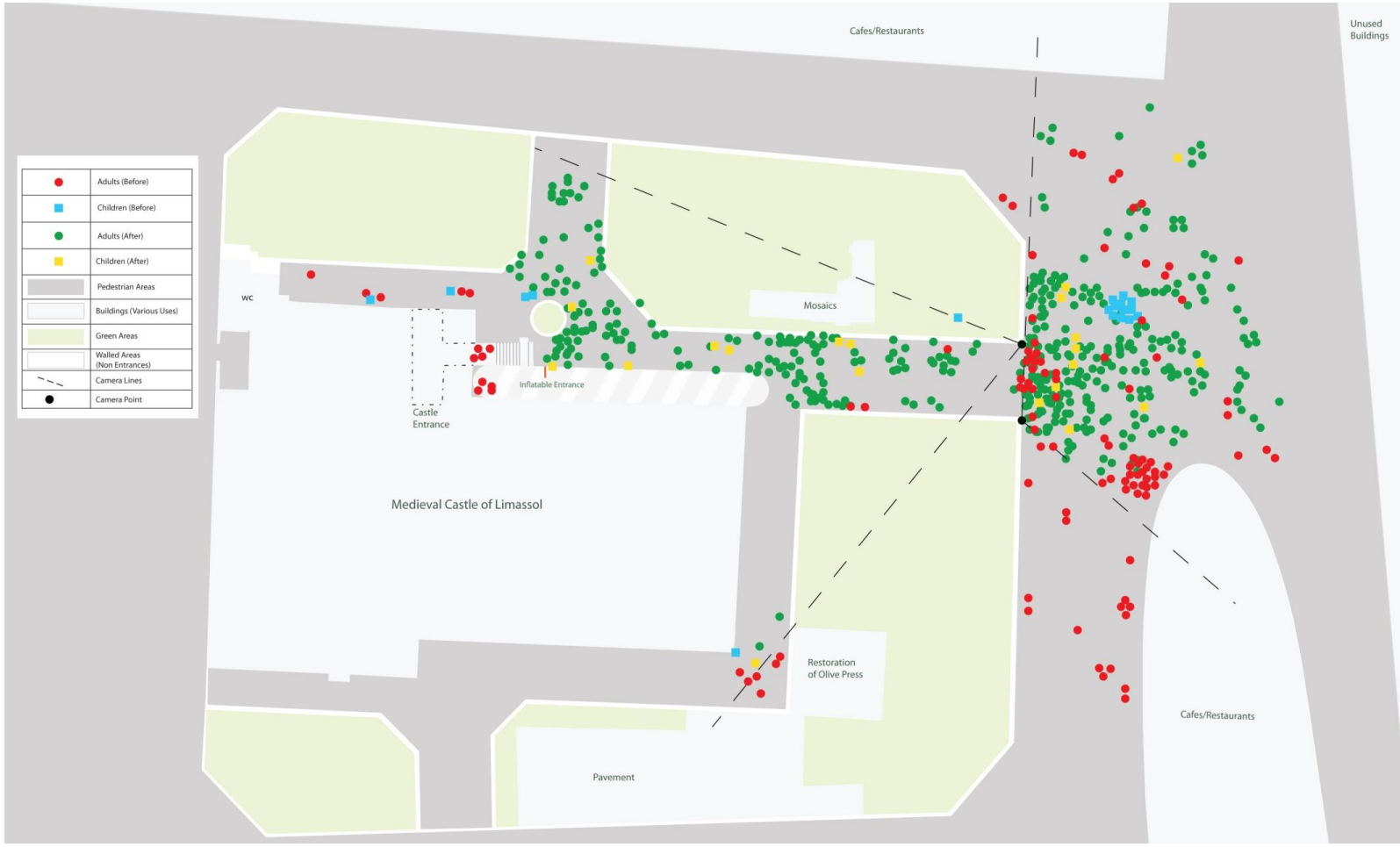
Saturday 14th March 12pm – 1pm (Pre-Design)



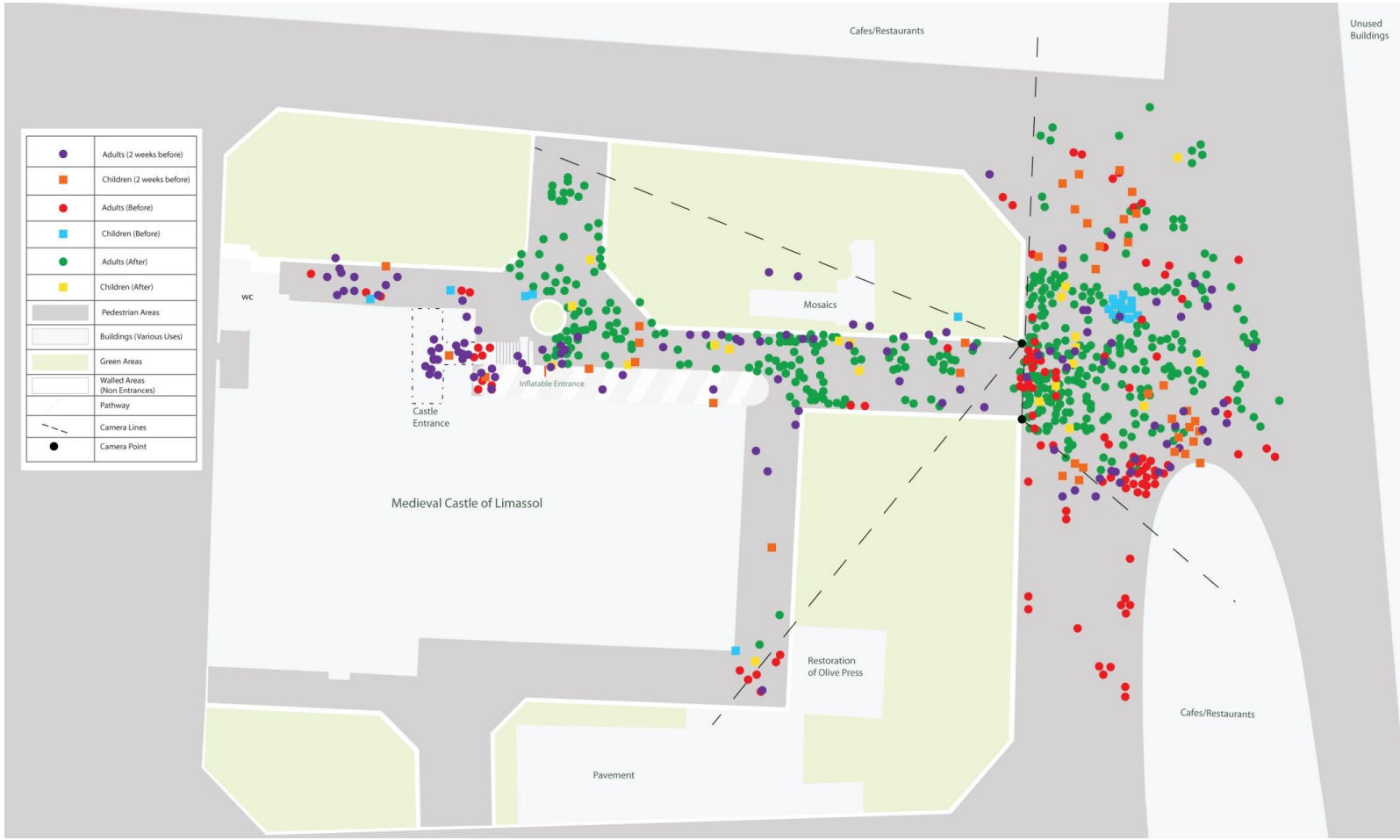
Saturday 21st March 12pm – 1pm (Pre-Design)

Saturday 28th March 12pm – 1pm (Design Implementation)

Saturday 14th March 12pm – 1pm (Pre-Design) compared to Saturday 28th March 12pm – 1pm (Design Implementation)



Saturday 21st March 12pm – 1pm (Pre-Design) compared to Saturday 28th March 12pm – 1pm (Design Implementation)

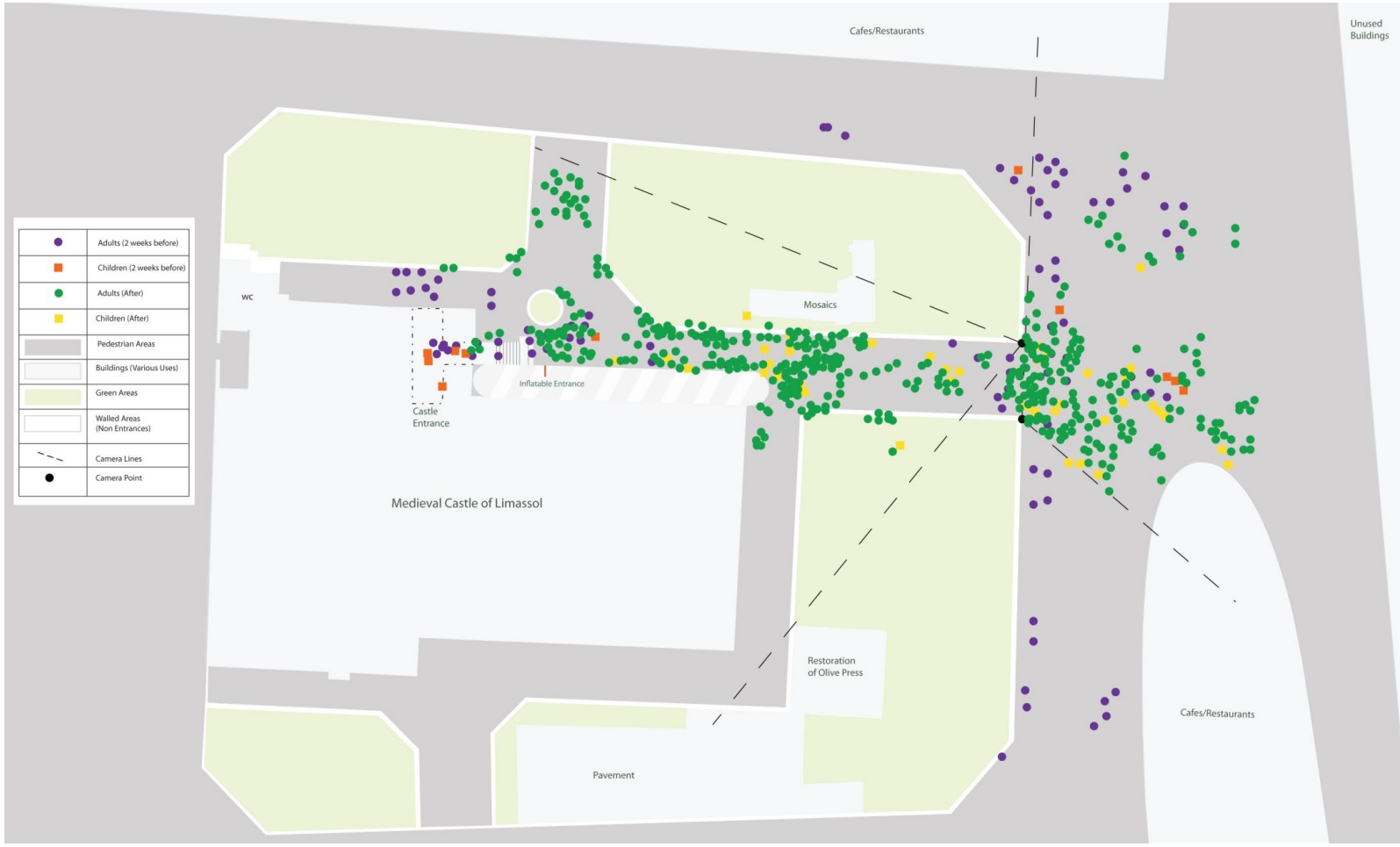


Saturday 14th March 12pm – 1pm (Pre-Design) /Saturday 21st March 12pm – 1pm (Pre-Design) compared to Saturday 28th March 12pm – 1pm (Design Implementation)

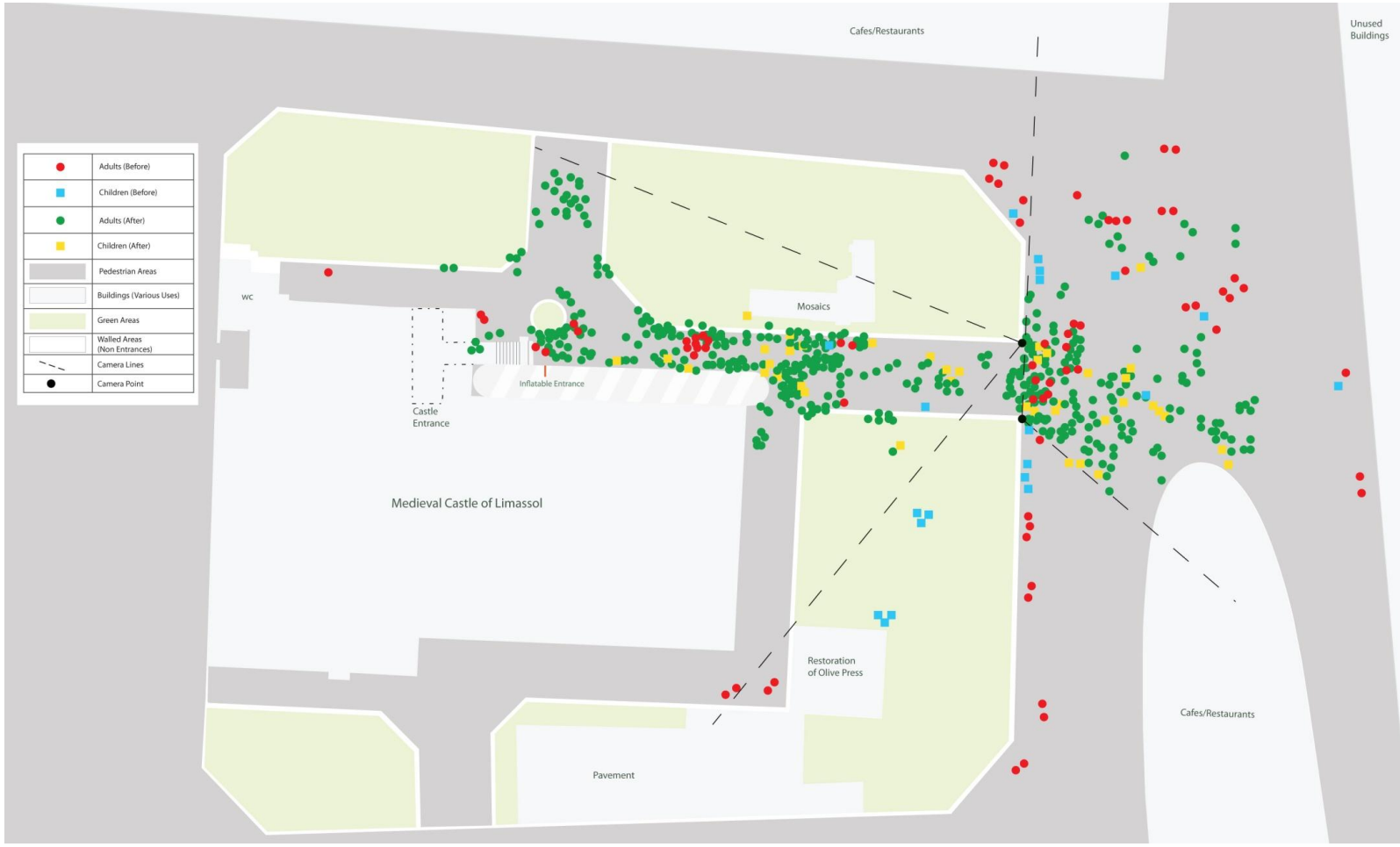
Saturday 14th March 3pm – 4pm (Pre-Design)

Saturday 21st March 3pm – 4pm (Pre-Design)

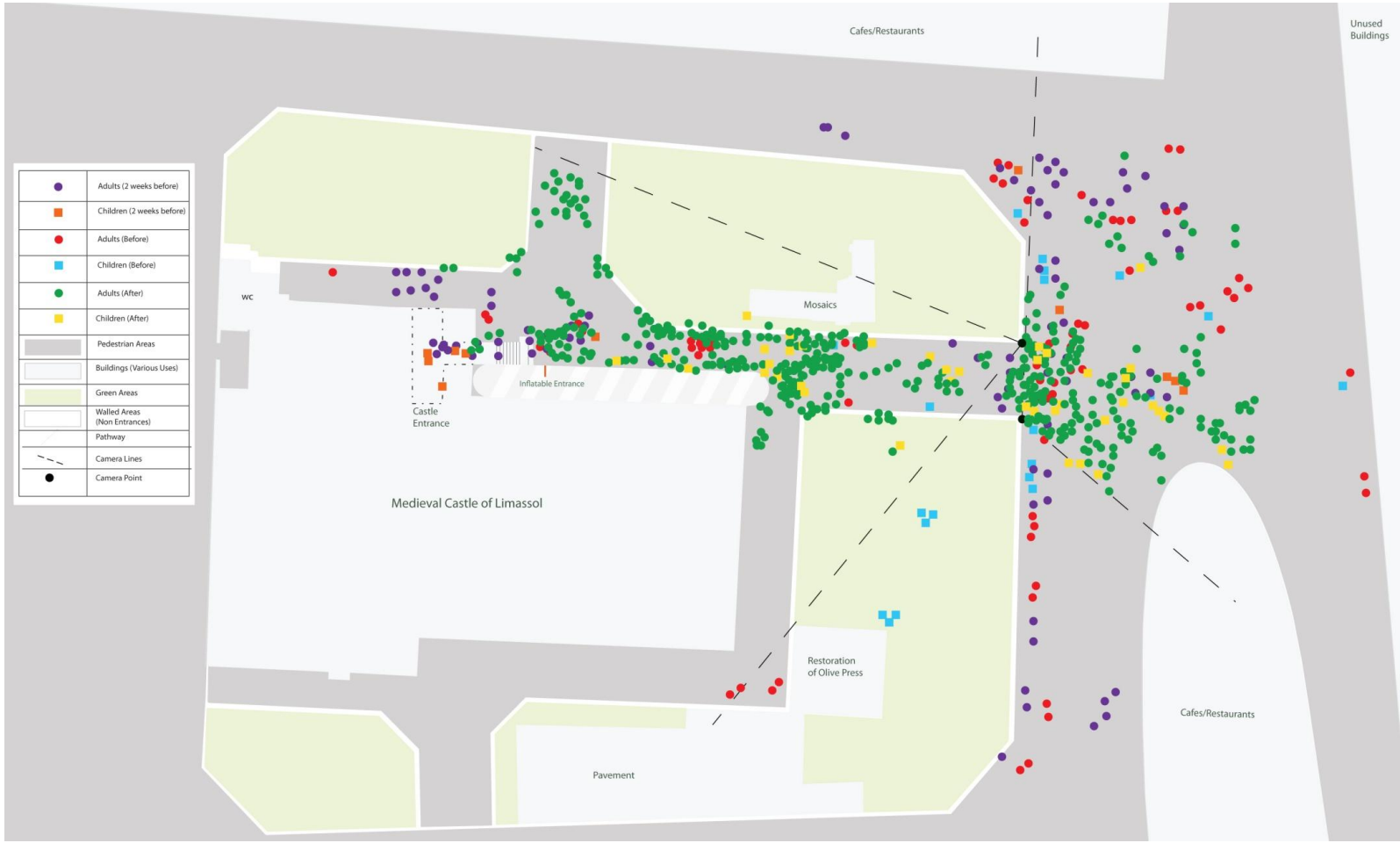
Saturday 28th March 3pm – 4pm (Design Implementation)



Saturday 14th March 3pm – 4pm (Pre-Design) compared to Saturday 28th March 3pm – 4pm (Design Implementation)



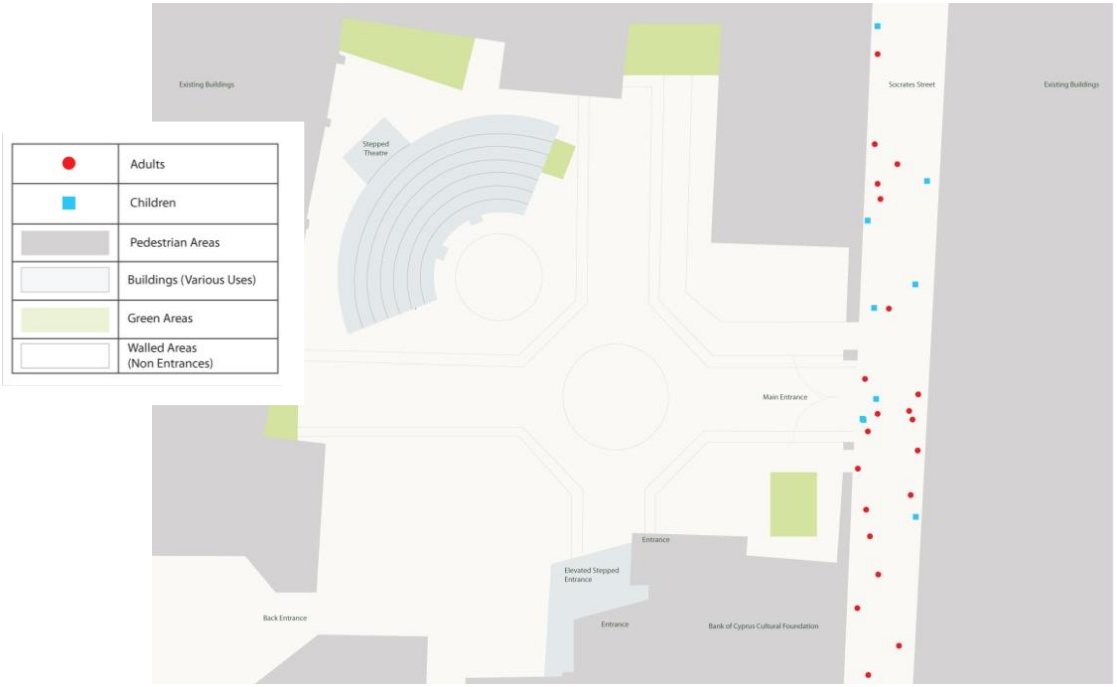
Saturday 21st March 3pm – 4pm (Pre-Design) compared to Saturday 28th March 3pm – 4pm (Design Implementation)



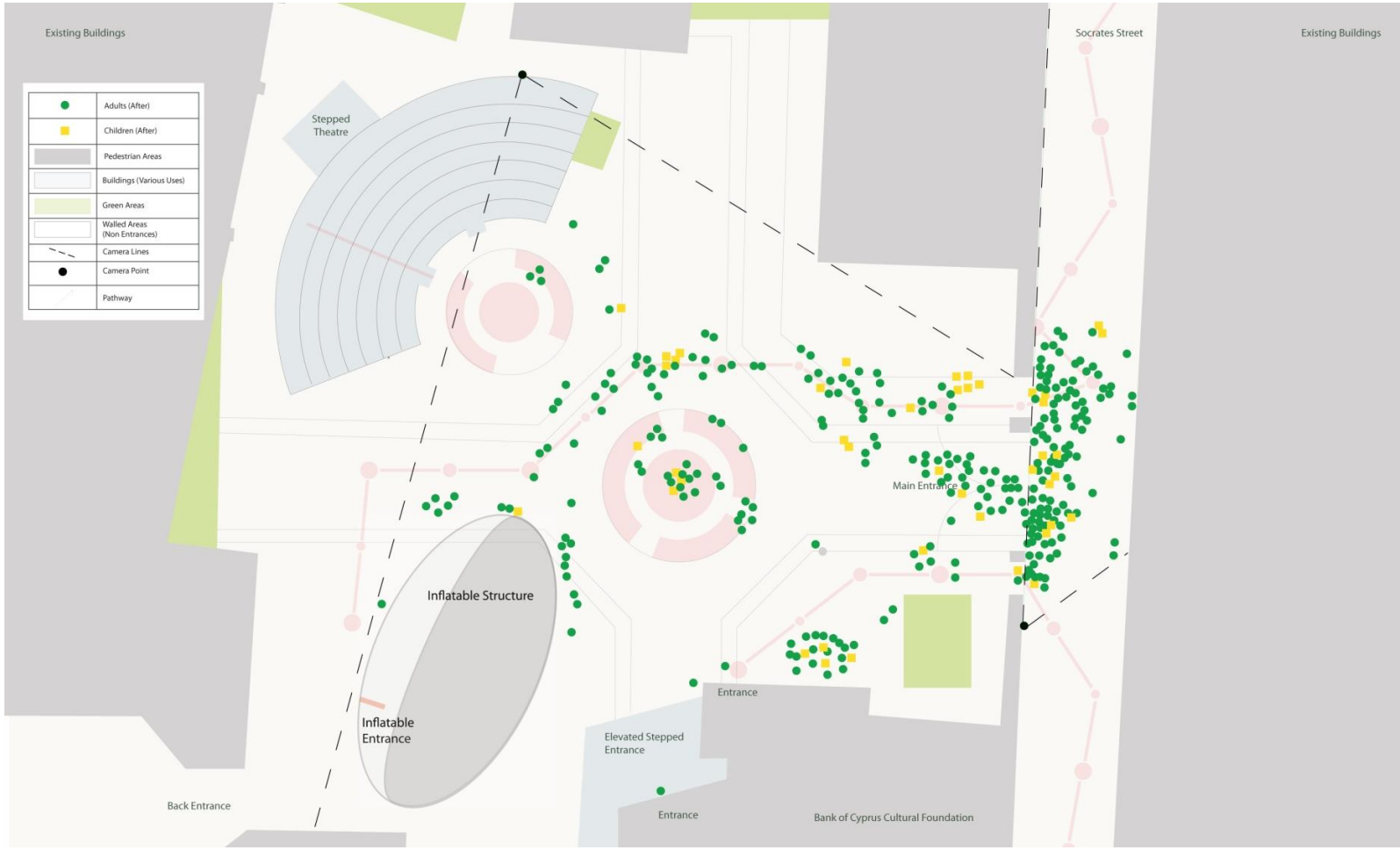
Saturday 14th March 3pm – 4pm (Pre-Design)/Saturday 21st March 3pm – 4pm (Pre-Design) compared to Saturday 28th March 3pm – 4pm (Design Implementation)

Appendix 6.5b: Behavioural Mapping, User Stationary Actions, Nicosia

Saturday 7th March 12pm – 1pm (Pre-Design)

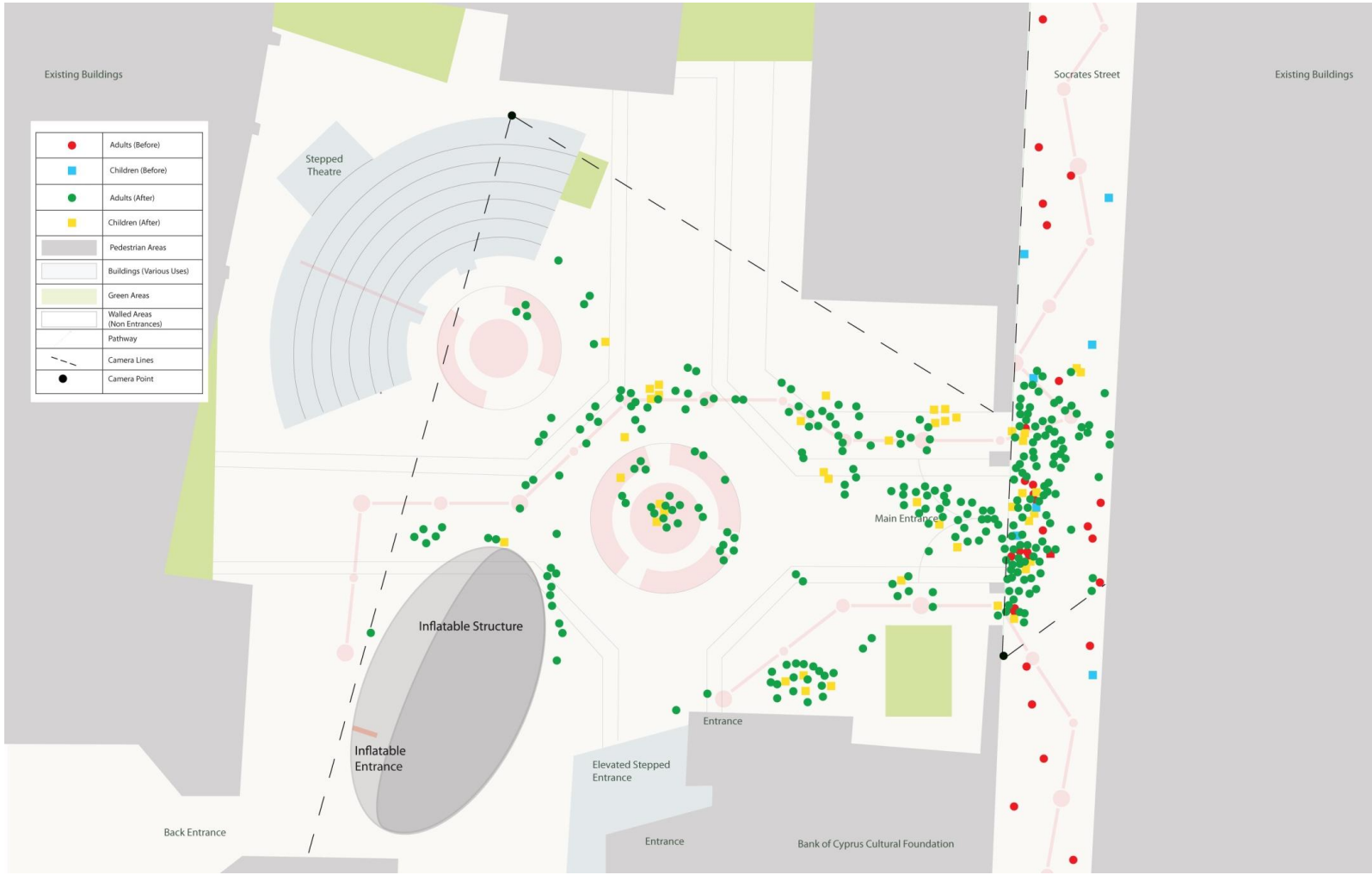


Saturday 14th March 12pm – 1pm (Pre-Design)

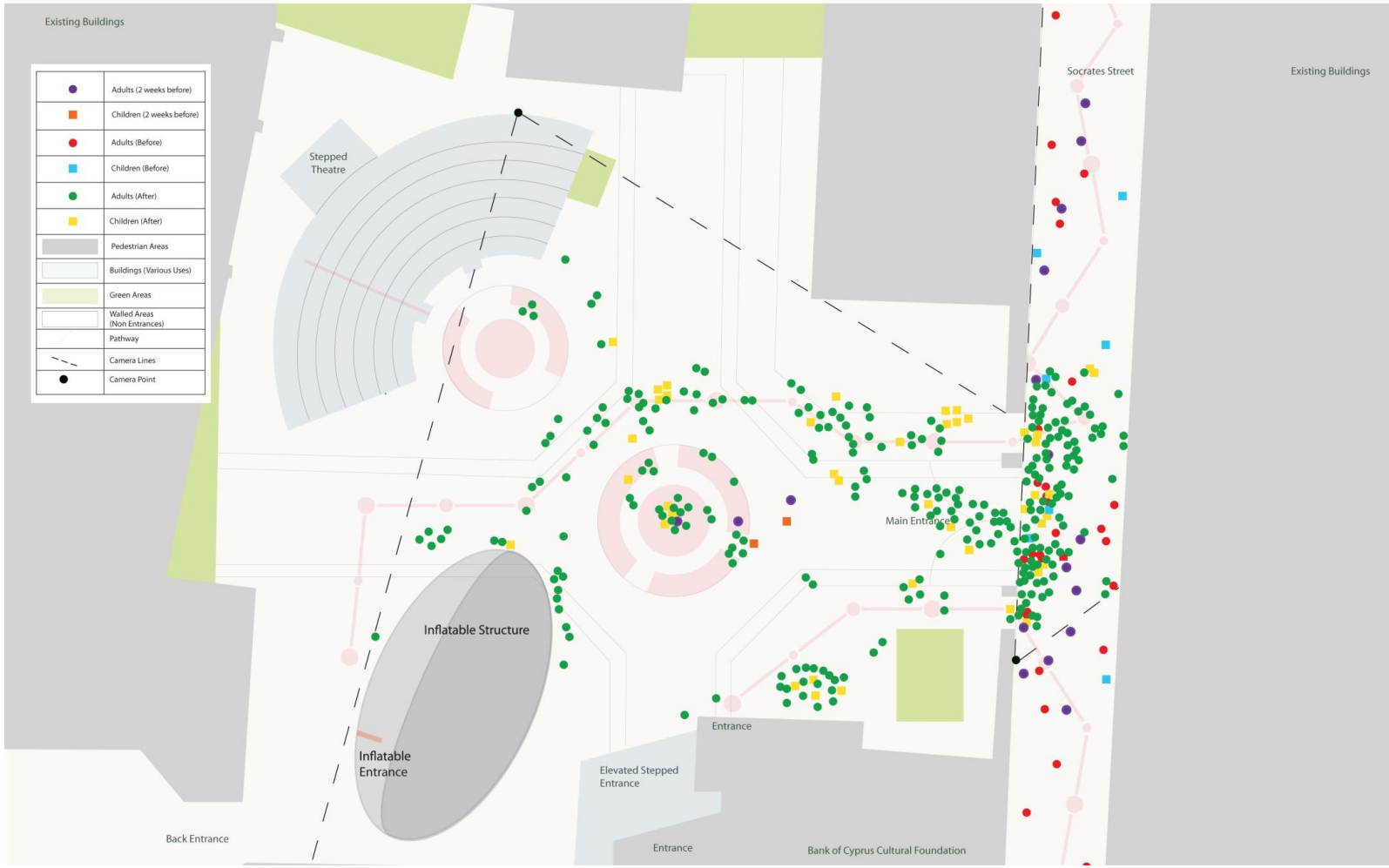


Saturday 4th April 12pm – 1pm (Design Implementation)

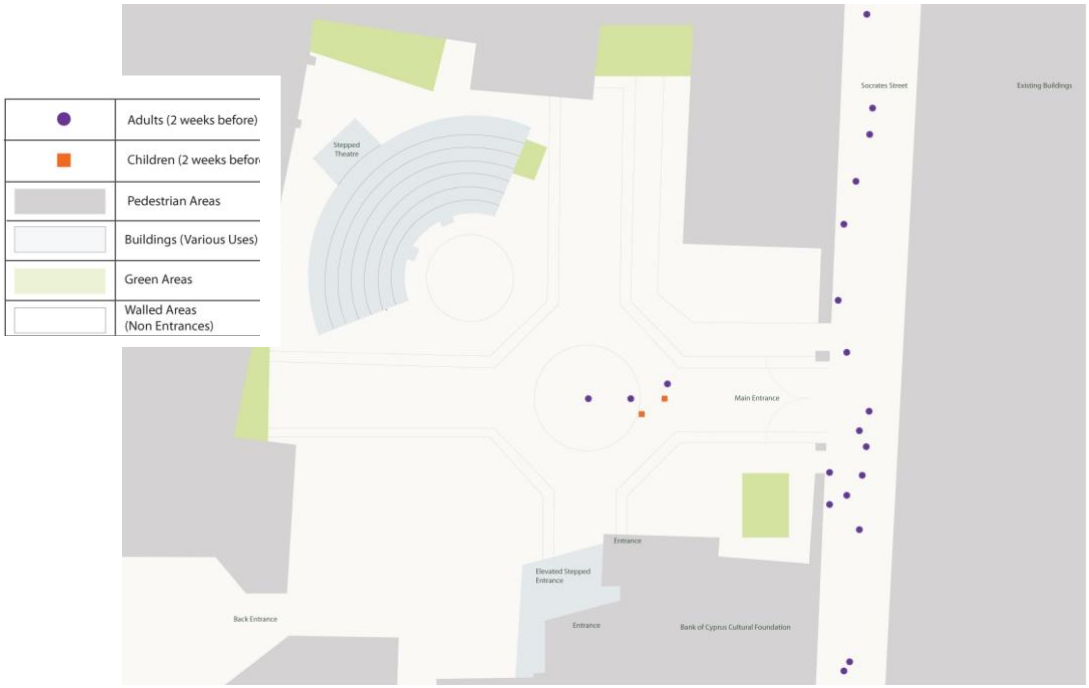
Saturday 7th March 12pm – 1pm (Pre-Design) compared to Saturday 4th April 12pm – 1pm (Design Implementation)



Saturday 14th March 12pm – 1pm (Pre-Design) compared to Saturday 4th April 12pm – 1pm (Design Implementation)

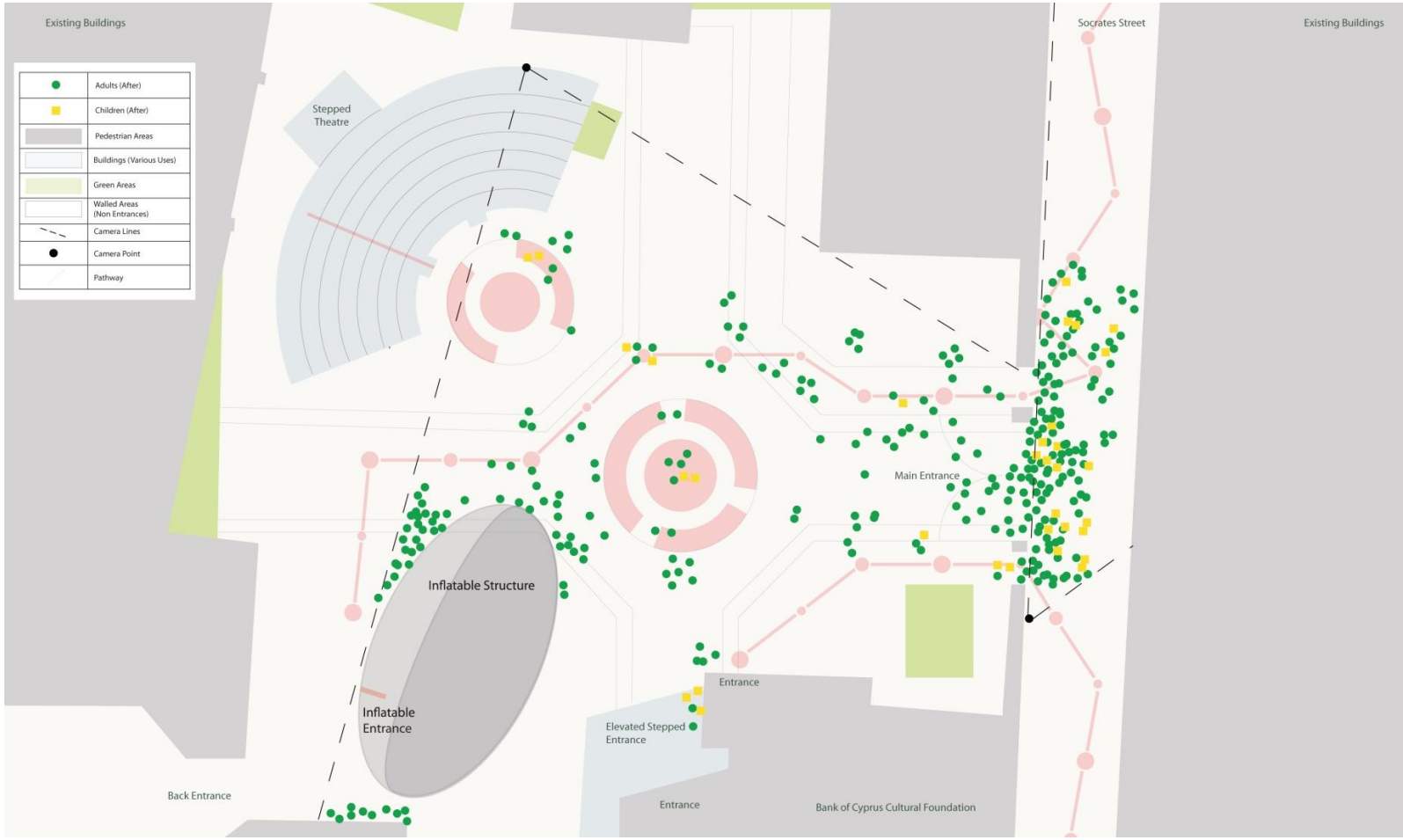


Saturday 7th March 12pm – 1pm (Pre-Design)/Saturday 14th March 12pm – 1pm (Pre-Design) compared to Saturday 4th April 12pm – 1pm (Design Implementation)

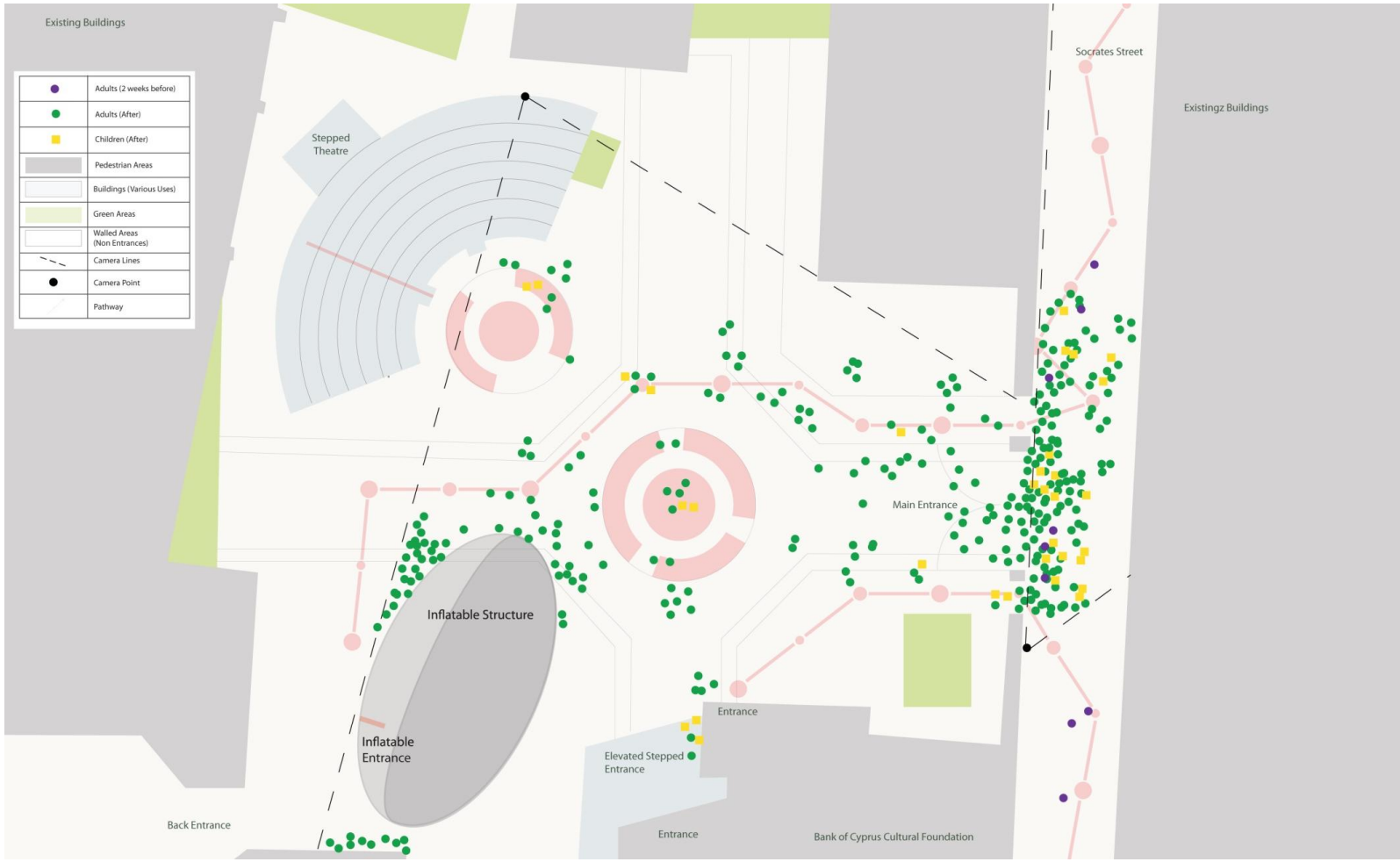


Saturday 7th March 3pm – 4pm (Pre-Design)

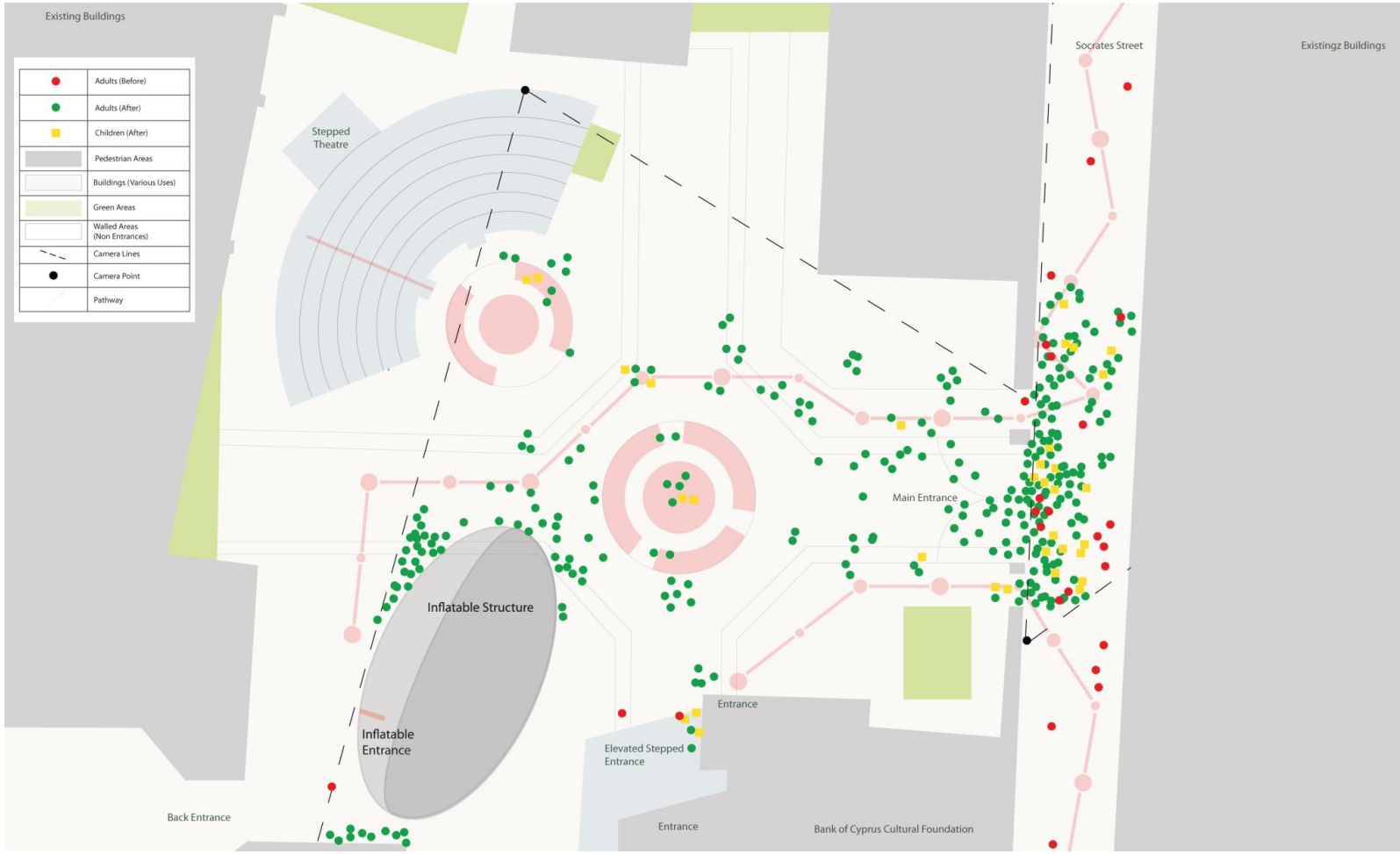
Saturday 14th March 3pm – 4pm (Pre-Design)



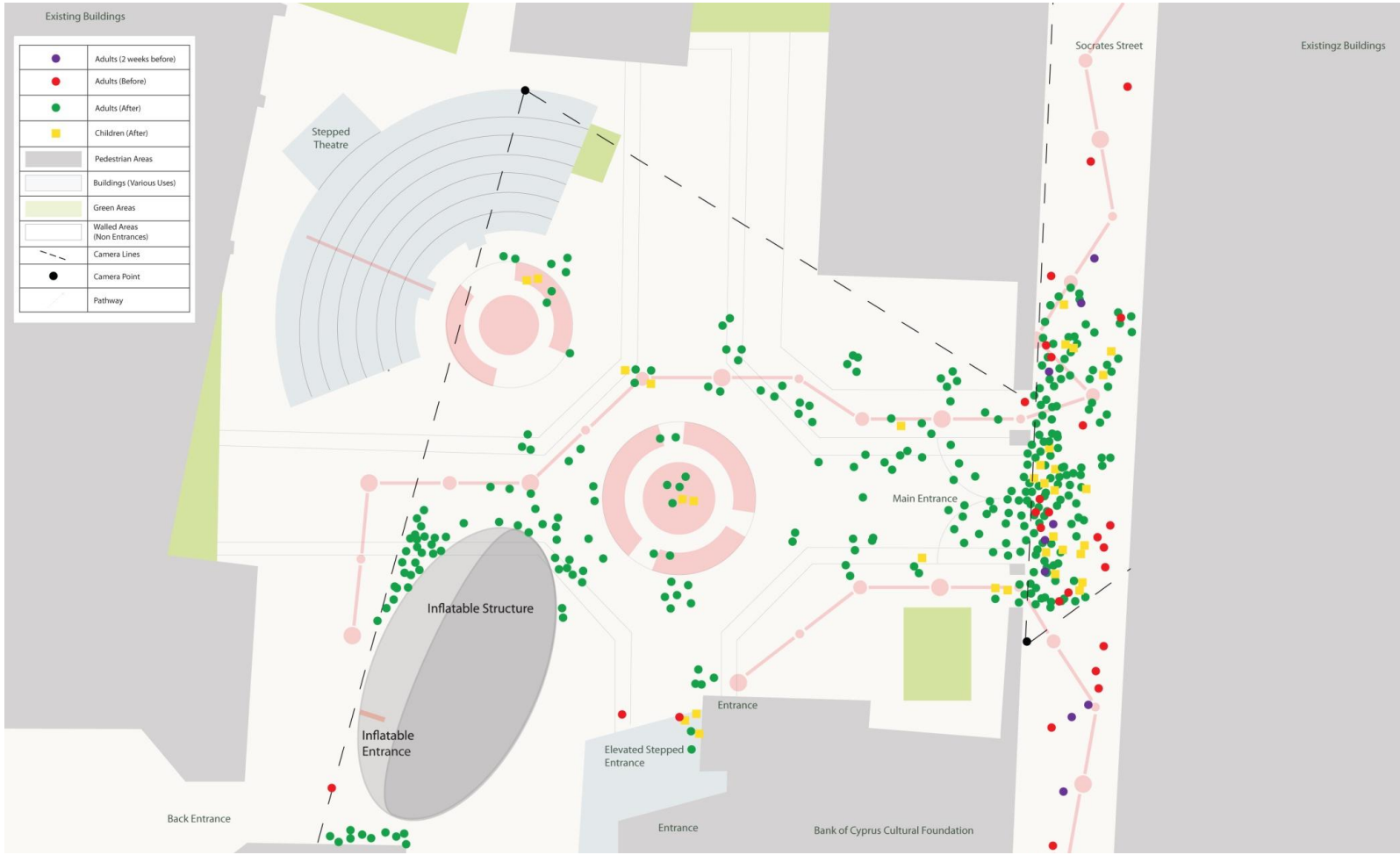
Saturday 4th April 3pm – 4pm (Design Implementation)



Saturday 7th March 3pm – 4pm (Pre-Design) compared to Saturday 4th April 3pm – 4pm (Design Implementation)



Saturday 14th March 3pm – 4pm (Pre-Design) compared to Saturday 4th April 3pm – 4pm (Design Implementation)



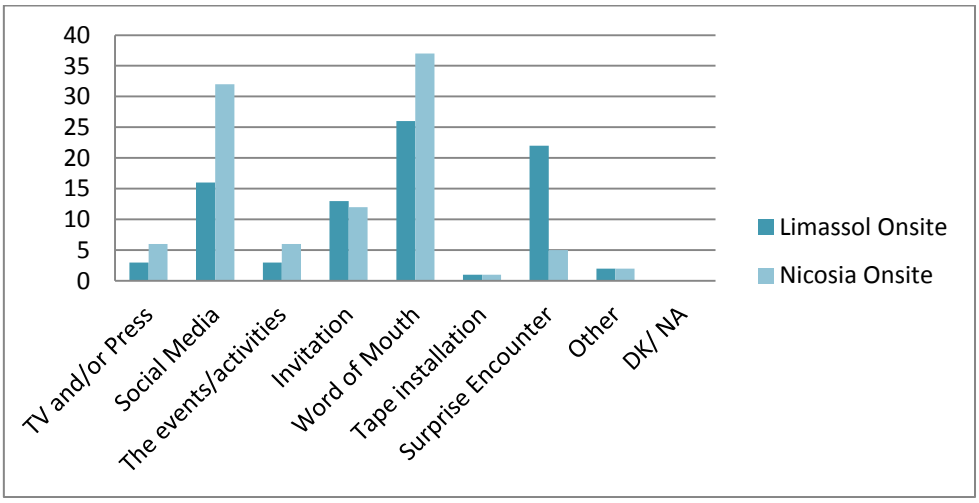
Saturday 7th March 3pm – 4pm (Pre-Design)/Saturday 14th March 3pm – 4pm (Pre-Design)compared to Saturday 4th April 3pm – 4pm (Design Implementation)

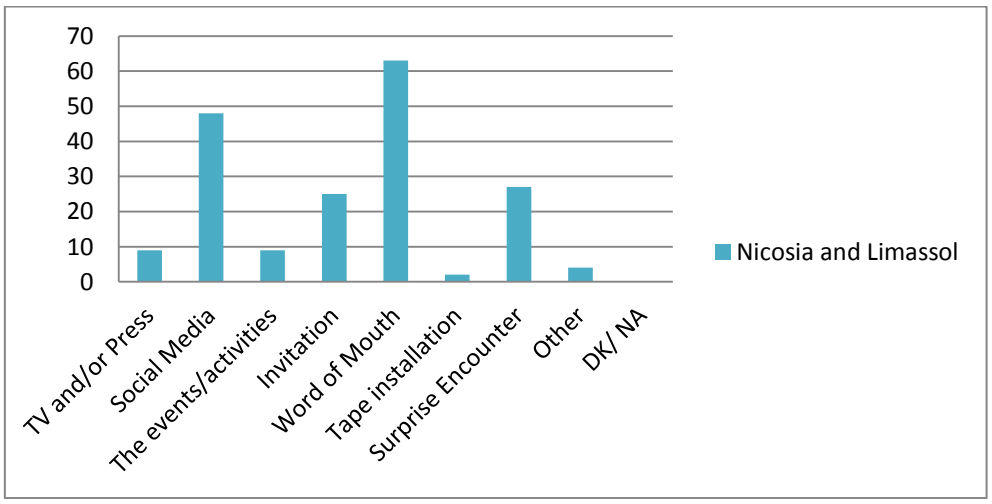
Appendix 6.6: GUL Questionnaire Results

Section 1: Impact of the Bubble

Question 1: How did you hear about the inflatable (Multiple responses possible)

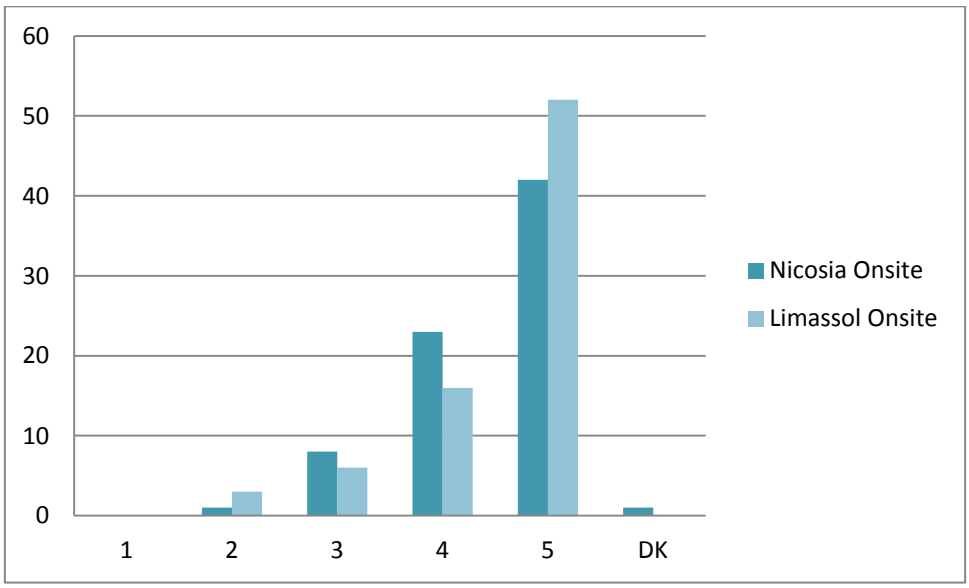
	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
TV and/or Press	9	5.9%	3	3.9%	6	8.0%
Social Media	48	31.7%	16	20.8%	32	42.7%
events/activities	9	5.9%	3	3.9%	6	8.0%
Invitation	25	16.4%	13	16.9%	12	16.0%
Word of Mouth	63	41.5%	26	33.8%	37	49.3%
Tape installation	2	1.3%	1	1.3%	1	1.3%
Surprise Encounter	27	16.2%	22	28.6%	5	6.7%
Other	4	2.6%	2	2.6%	2	2.7%
DK/ NA	0	0.0%	0	0.0%	0	0.0%
Respondent	152		77		75	

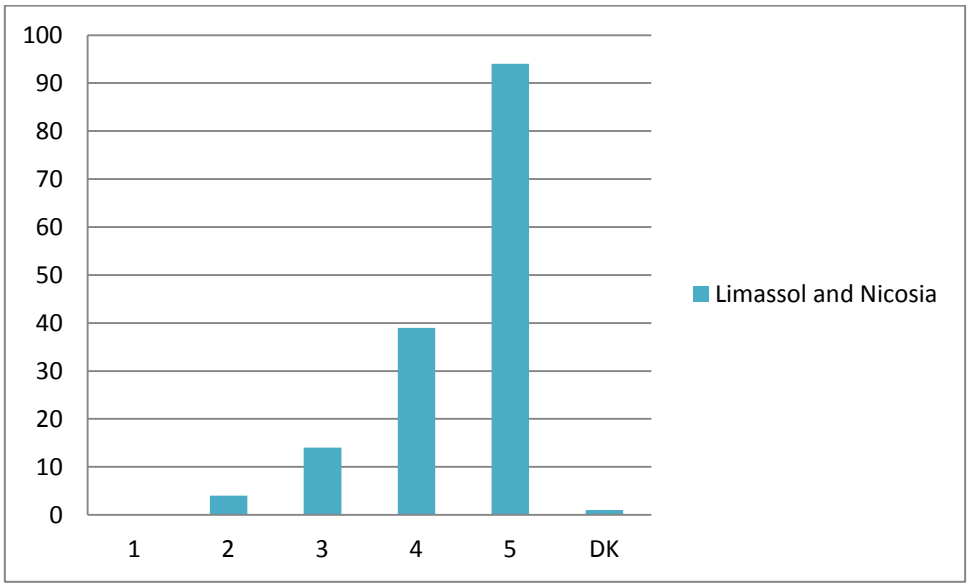




Question 2: To what degree did the inflatable attract you to enter the space?

	Not at all	A little	Somewhat	Much	Very much	DK	Respondents
Nicosia	0	1	8	23	42	1	75
Percentage	0%	1.3%	10.7%	30.7%	56.0%	1.3%	75
Limassol	0	3	6	16	52	0	77
Percentage	0%	3.9%	7.8%	20.8%	67.5%	0.0%	77
Limassol and Nicosia	0	4	14	39	94	1	152
Overall Percentage	0%	2.6%	9.2%	25.6%	61.8%	0.6%	152

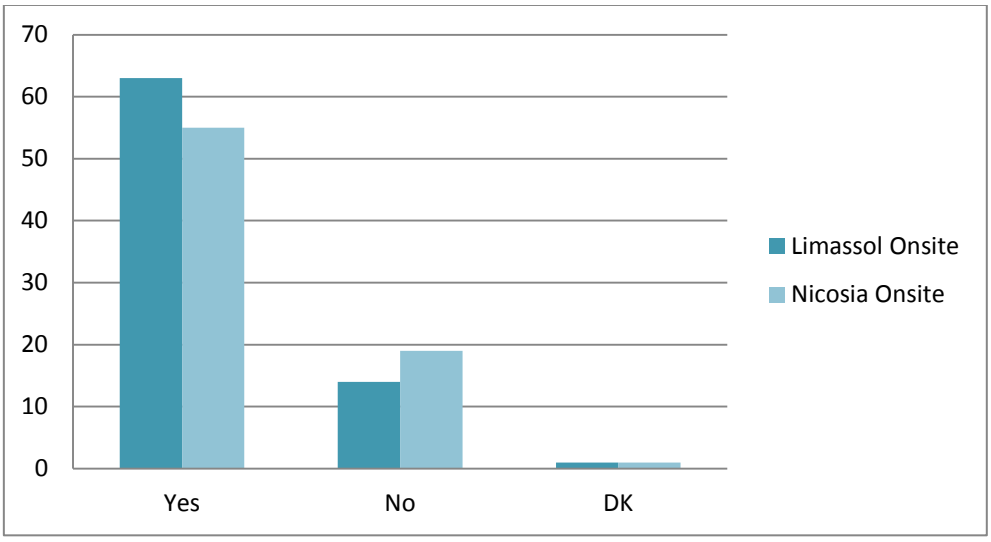


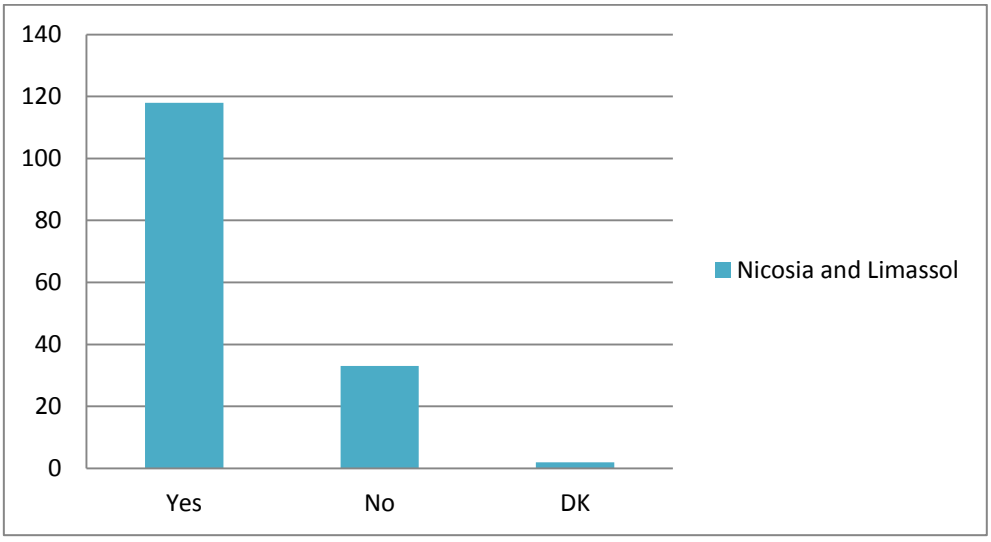


Section 2: Level of Interaction

Question 3: Did the inflatable provoke any discussion?

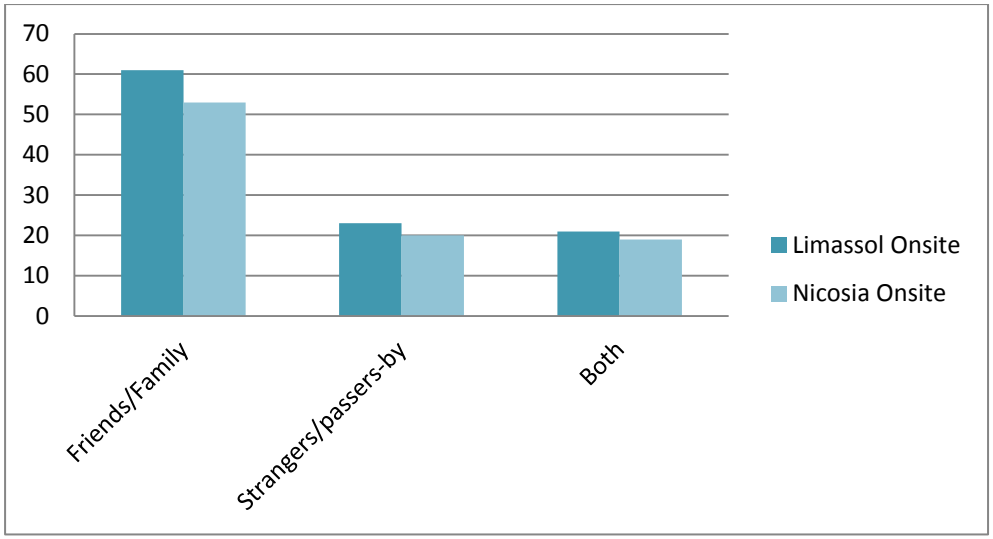
	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
Yes	118	77.5%	63	81.8%	55	73.3%
No	33	21.7%	14	18.2%	19	25.3%
DK	2	1.3%	1	1.3%	1	1.3%
Respondents	152		77		75	

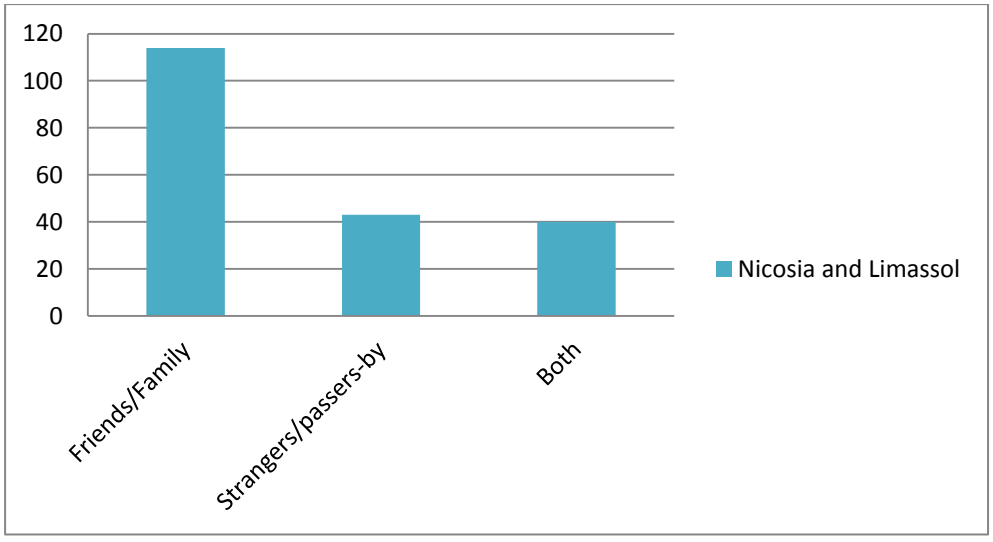




Question 4: Were these discussions with Friends and Family or Strangers and passers-by?

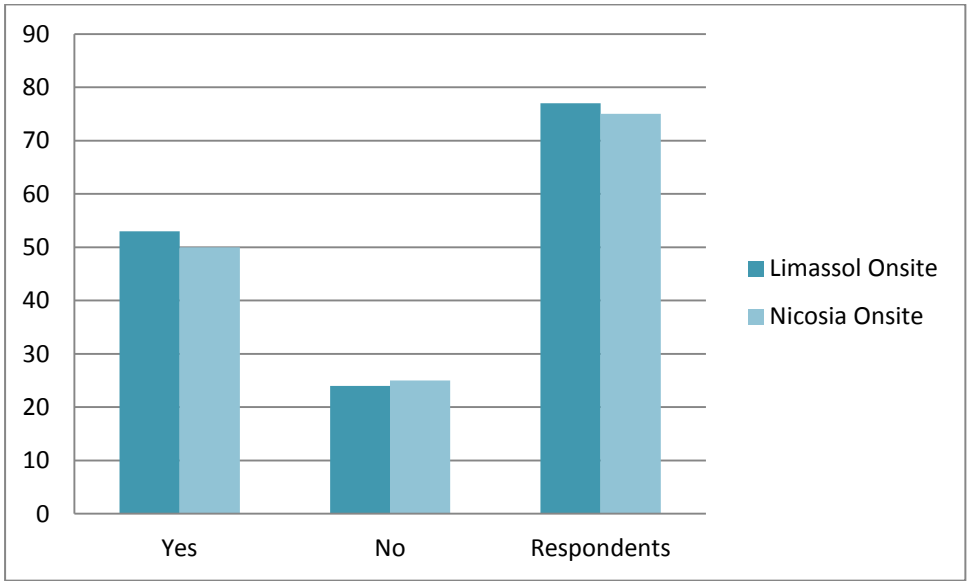
	Nicosia and Limassol	Percentage	Limassol	Percentage	Nicosia	Percentage
Friends/Family	114	95.8%	61	96.4%	53	95.2%
Strangers/passers-by	43	37.3%	23	36.4%	20	38.1%
Both	40	34.0%	21	33.3%	19	33.3%
Respondents	118	118	*63*	63	*55*	63

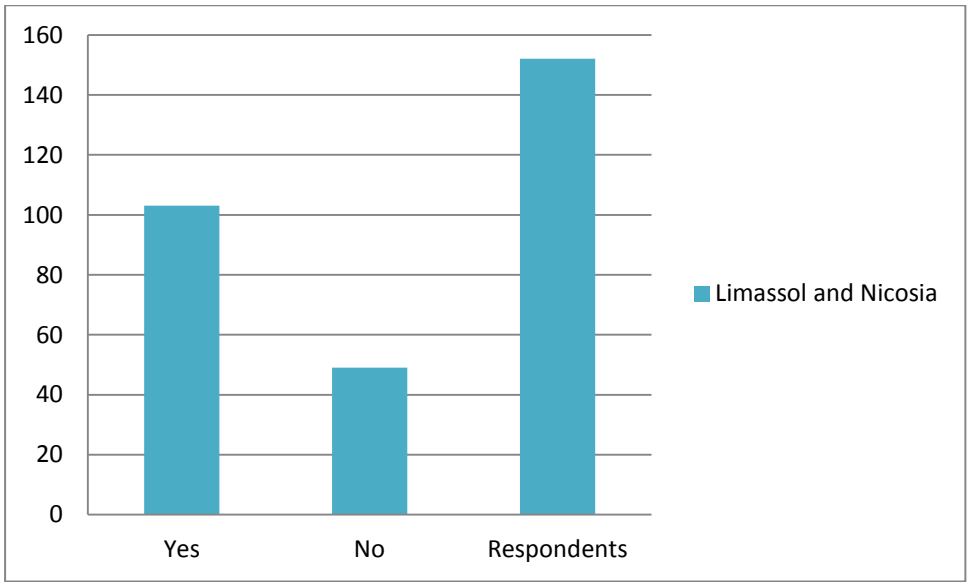




Question 5: Did you take any photos or videos of the events?

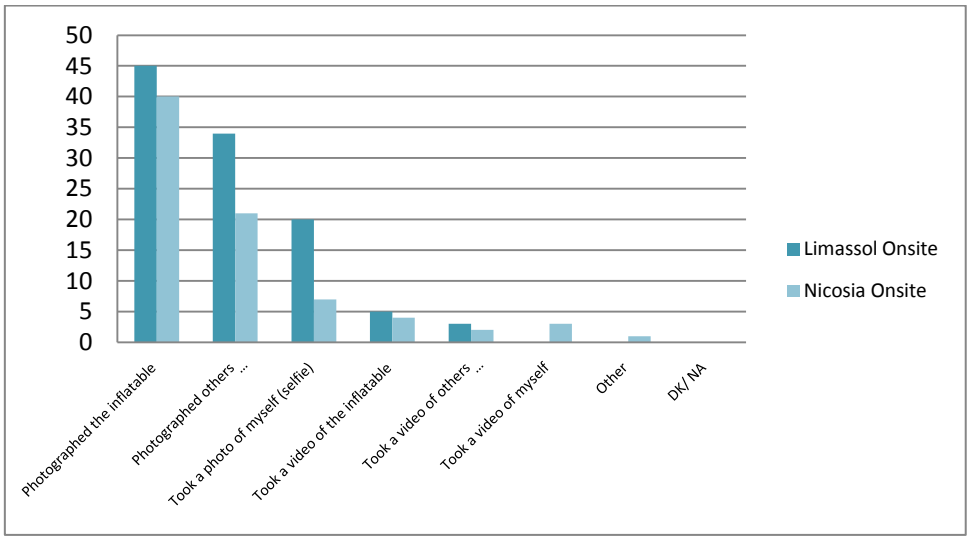
	Limassol	Percentage	Nicosia	Percentage	Limassol and Nicosia	Percentage
Yes	53	68.8%	50	66.7%	103	67.7%
No	24	31.2%	25	33.3%	49	32.2%
Respondents	77	77	75	75	152	152

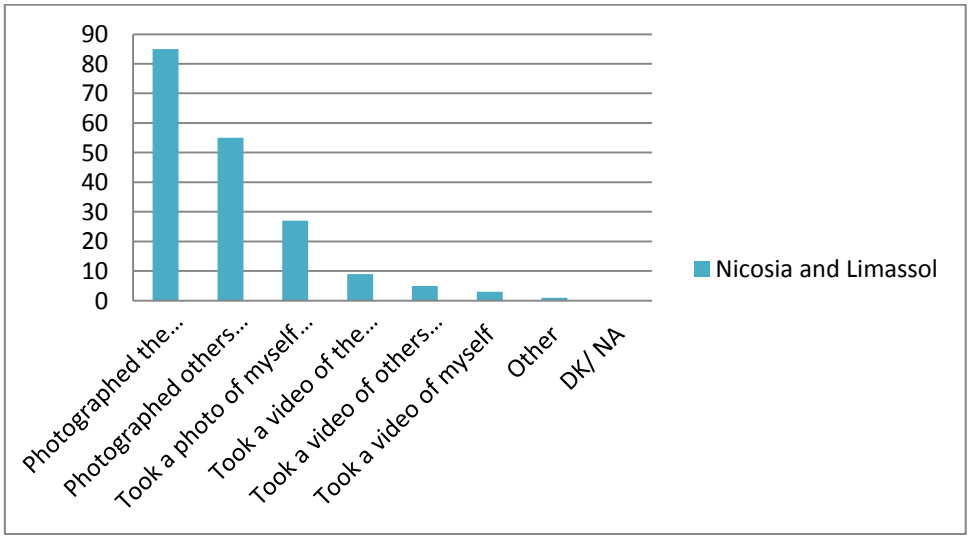




Question 6: What did you photograph or videotape? MULTIPLE RESPONSES POSSIBLE

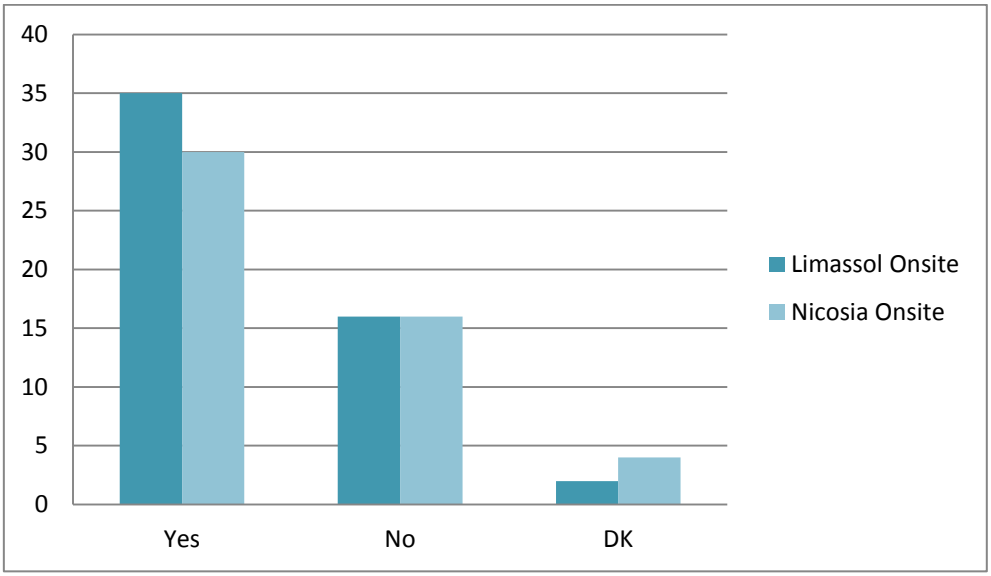
	Nicosia and Limassol	Percentage	Limassol	Limassol	Nicosia	Percentage
Photographed the inflatable	85	82%	45	84.91%	40	80%
Photographed others (friends/family/strangers) within/using the inflatable	55	53%	34	64.15%	21	42%
Took a photo of myself (selfie)	27	26%	20	37.74%	7	14%
Took a video of the inflatable	9	9%	50	9.43%	4	8%
Took a video of others (friends/family/strangers) using the inflatable	5	5%	30	5.66%	2	4%
Took a video of myself	3	3%	0	0%	3	6%
Other	1	1%	0	0%	1	2%
DK/ NA	0	0%	0	0%	0	0%
Respondents	103		*53*		*50*	

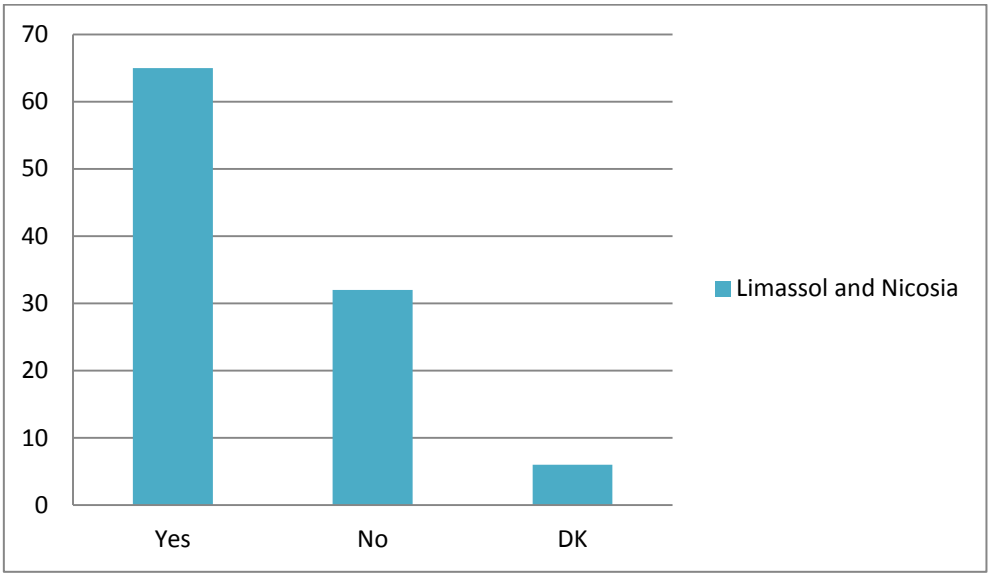




Question 7: Will you upload any of these images/video to social media sites?

	Limassol	Percentage	Nicosia	Percentage	Limassol and Nicosia	Percentage
Yes	35	66.0%	30	60.0%	65	63.1%
No	16	30.2%	16	32.0%	32	31.1%
DK	2	3.8%	4	8.0%	6	5.8%
Respondents	*53*	53	*50*	*50*	103	103

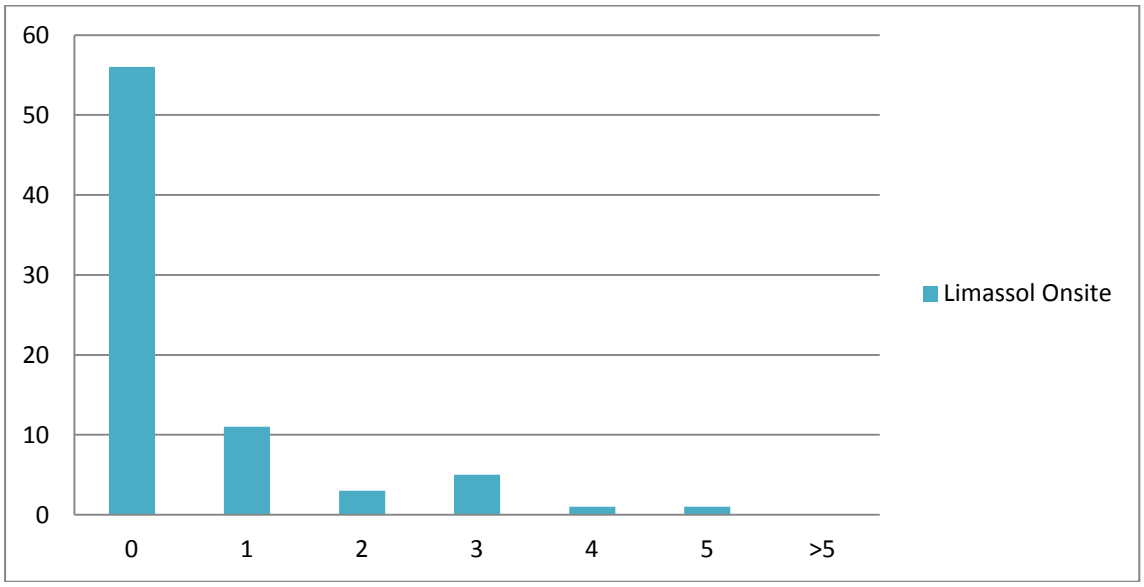




Section 3: Perception – of the space

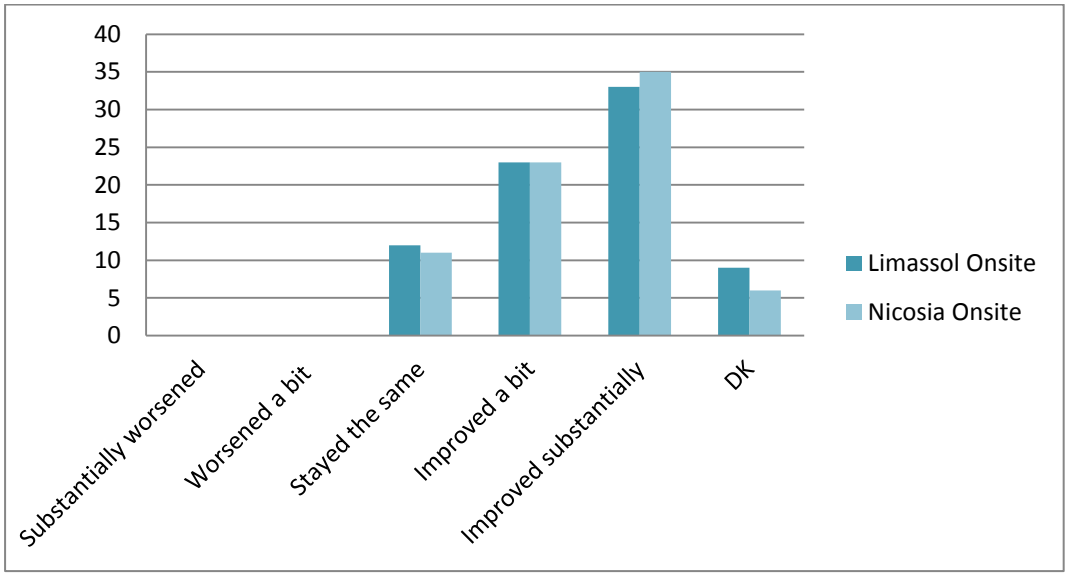
Question 8: In the last twelve months, how many times have you entered the castle grounds? ONLY FOR LIMASSOL

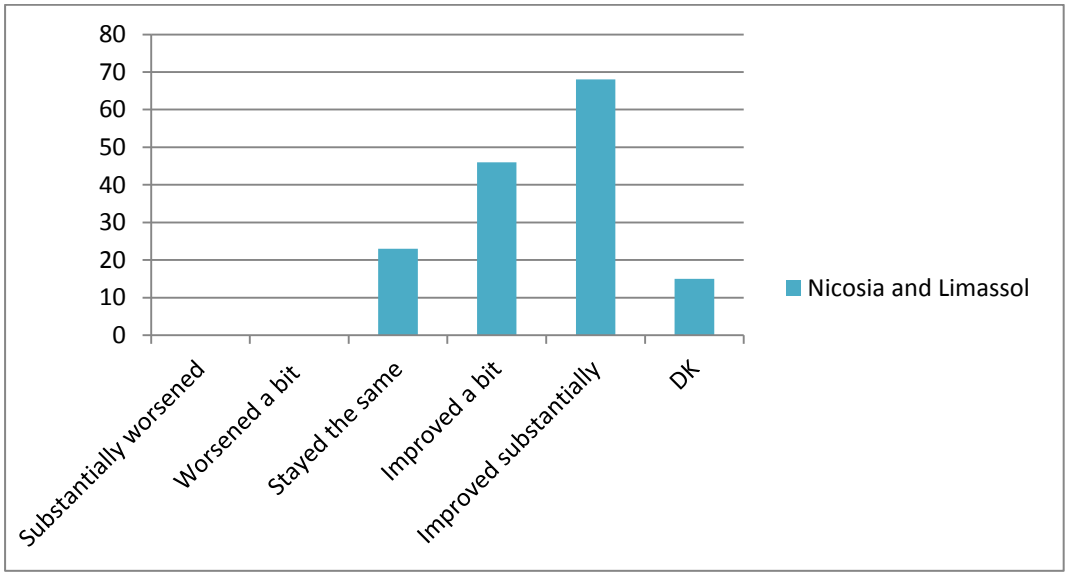
	0	1	2	3	4	5	>5	Respondents
Limassol	56	11	3	5	1	1	0	77
Percentage	72.7%	14.2%	3.9%	6.5%	1.3%	1.3%	0.0%	77



Question 9: After your experience today have your thoughts toward the space changed? Would you say that they…

	Substantially worsened	Worsened a bit	Stayed the same	Improved a bit	Improved substantially	DK	Respondents
Limassol	0	0	12	23	33	9	77
Percentage	0.0%	0.0%	15.6%	29.9%	42.9%	11.7%	77
Nicosia	0	0	11	23	35	6	75
Percentage	0.0%	0.0%	14.7%	30.7%	46.7%	8.0%	75
Nicosia and Limassol	0	0	23	46	68	15	152
Percentage	0.0%	0.0%	15.1%	30.3%	44.7%	9.9%	152

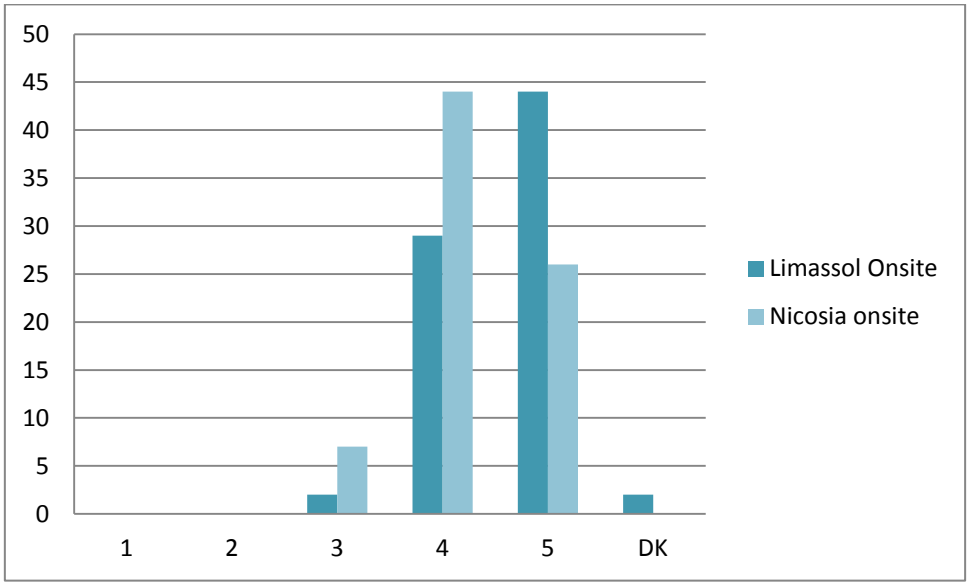


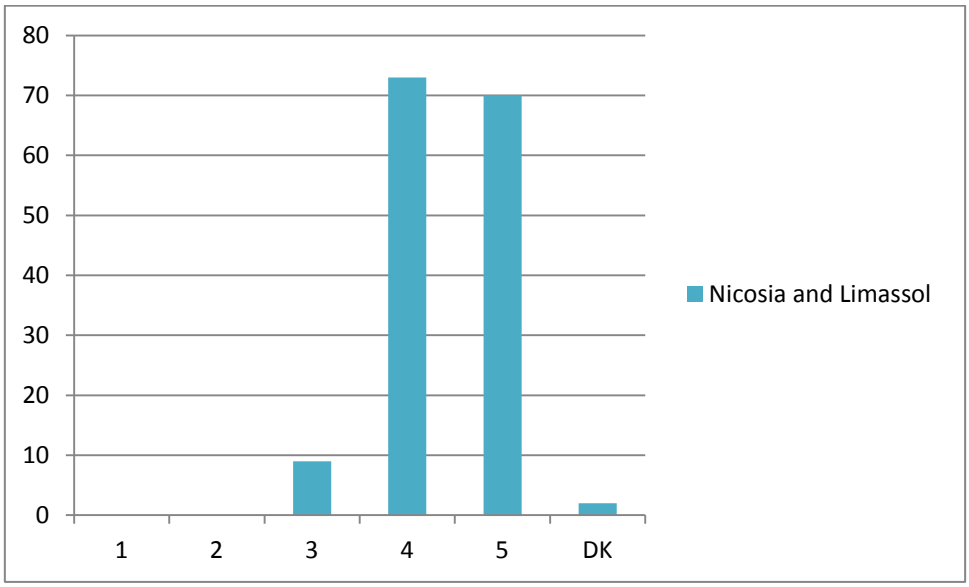


Section 4: Level of Success

Question 10: On a 5-point scale where 1 stands for “very negative impact”, 5 stands for “very positive impact" and 3 in the middle stands for ‘no impact’, how would you assess the impact that your experience of the Inflatable has had on your day?

	1	2	3	4	5	DK	Respondents
Limassol	0	0	2	29	44	2	77
Percentage	0.0%	0.0%	2.6%	37.7%	57.1%	2.6%	77
Nicosia	0	0	7	44	26	0	75
Percentage	0.0%	0.0%	9.3%	57.3%	33.3%	0.0%	75
Nicosia and Limassol	0	0	9	73	70	2	152
Overall Percentage	0.0%	0.0%	5.9%	48.0%	46.0%	1.3%	152

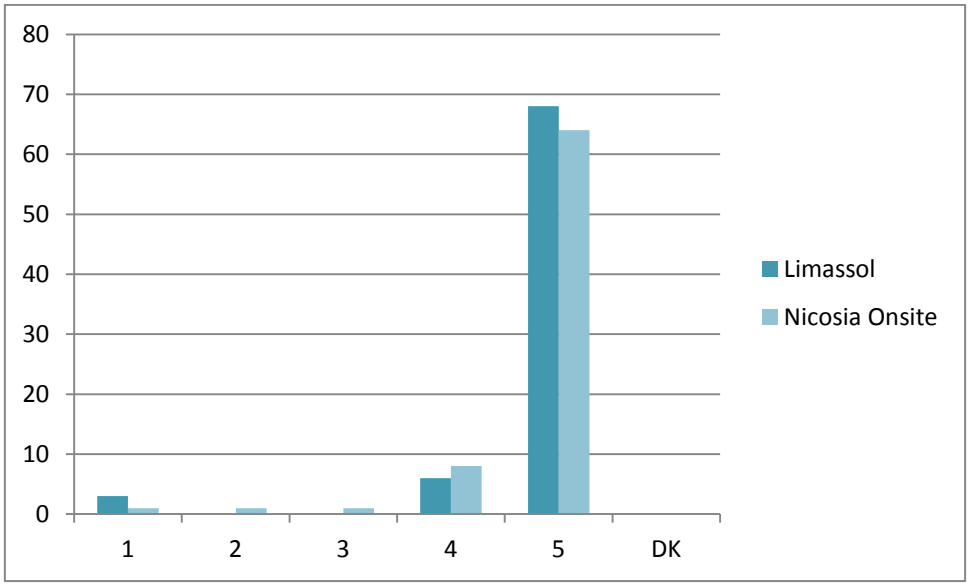


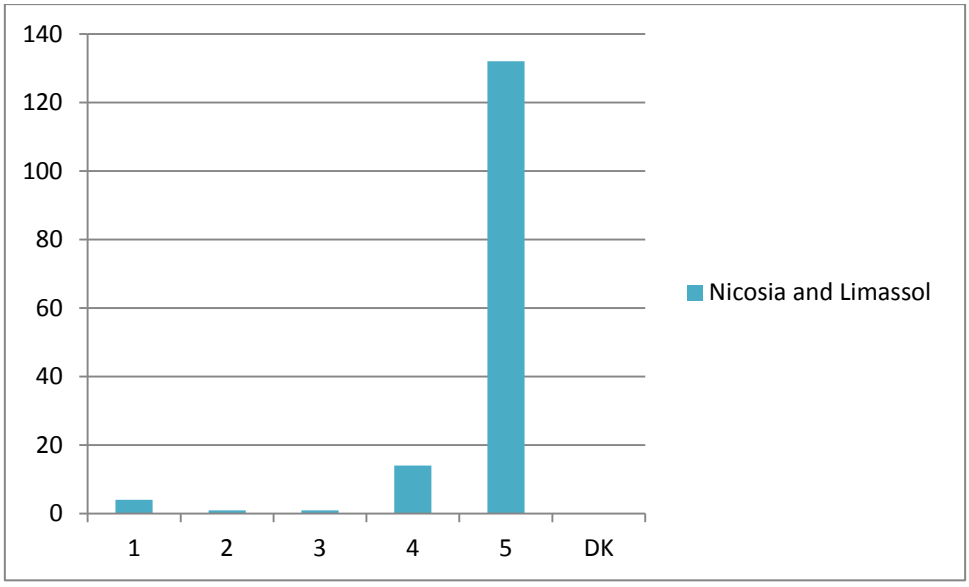


Question 11: On a 5-point scale where one stands for 'I totally disagree' and 5 stands for 'I totally agree', to what degree do you agree with the following statements.

a. I would like to see more playful designs within the city

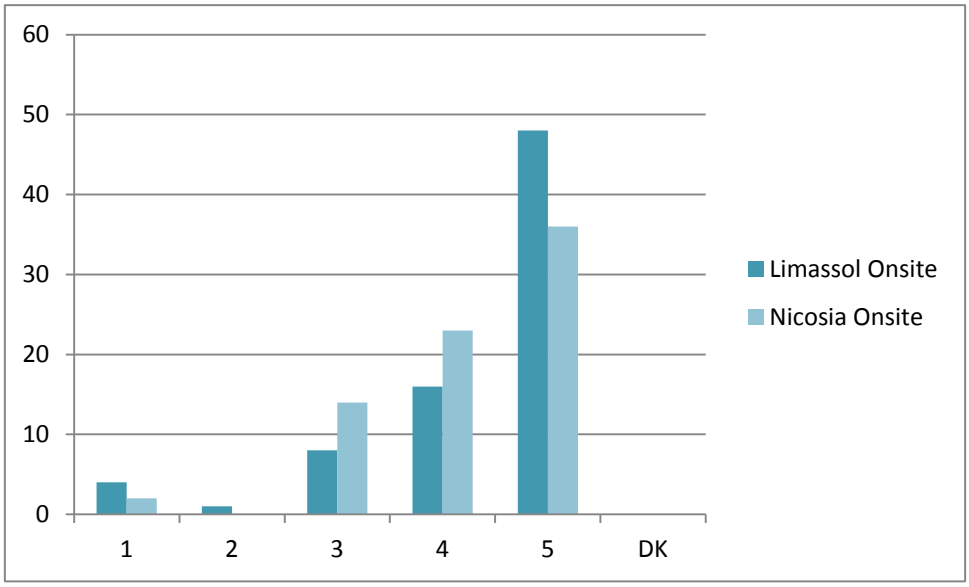
	1	2	3	4	5	DK	Respondents
Limassol	3	0	0	6	68	0	77
Percentage	3.9%	0.0%	0.0%	7.8%	88.3%	0.0%	77
Nicosia	1	1	1	8	64	0	75
Percentage	1.3%	1.3%	1.3%	10.7%	85.3%	0.0%	75
Nicosia and Limassol	4	1	1	14	132	0	152
Overall Percentage	2.6%	0.7%	0.7%	9.2%	86.8%	0.0%	152

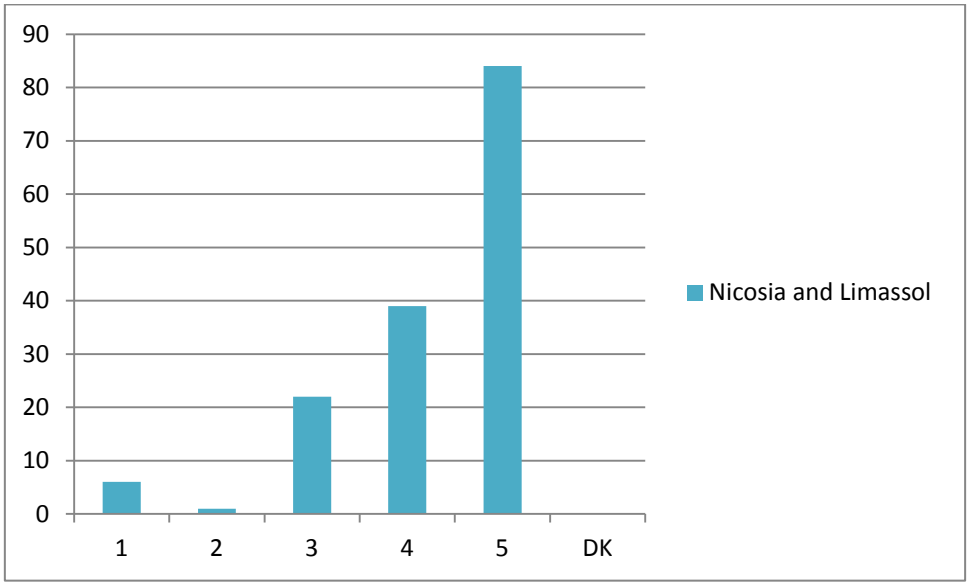




b. After today's visit, my perception of how public spaces can be used has changed

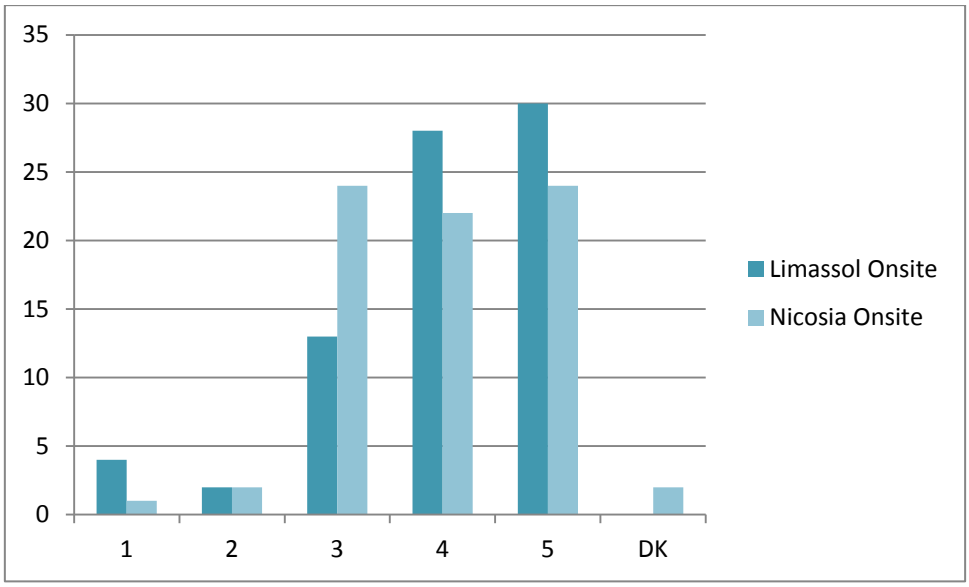
	1	2	3	4	5	DK	Respondents
Limassol	4	1	8	16	48	0	77
Percentage	5.2%	1.3%	10.4%	20.8%	62.3%	0.0%	77
Nicosia	2	0	14	23	36	0	75
Percentage	2.7%	0.0%	18.7%	30.7%	48.0%	0.0%	75
Nicosia and Limassol	6	1	22	39	84	0	152
Overall Percentage	3.9%	0.7%	14.5%	25.7%	55.3%	0.0%	152

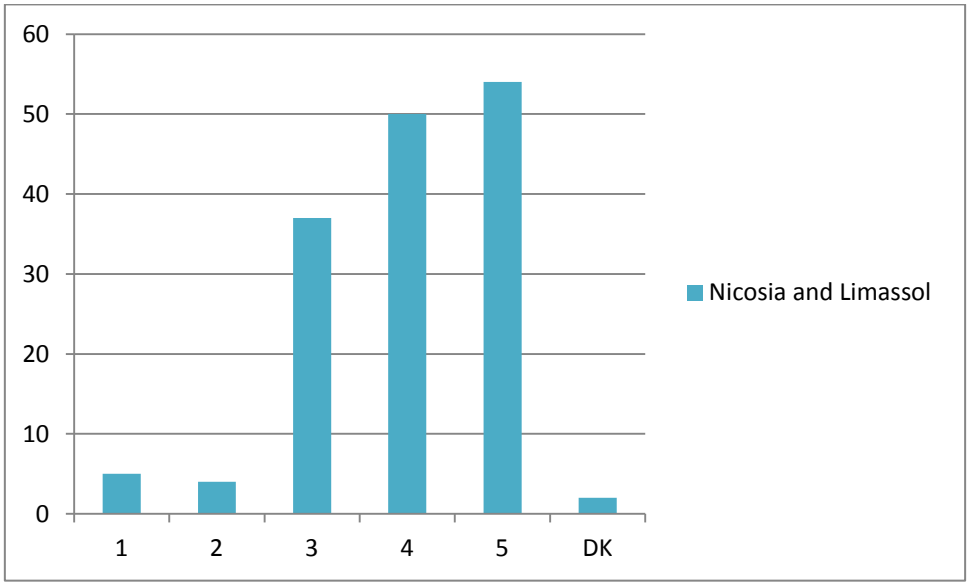




c. After today's visit, I am considering visiting more public spaces in the city

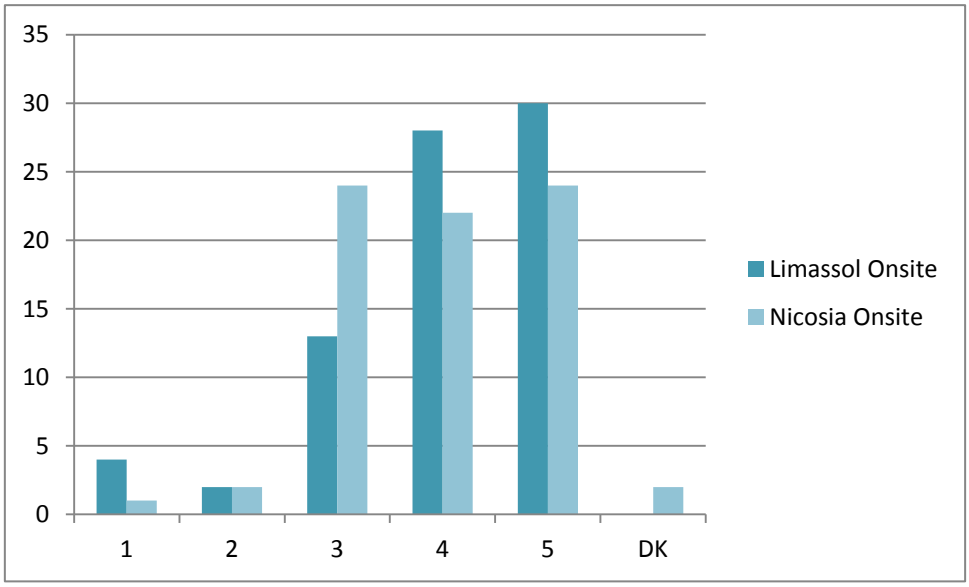
	1	2	3	4	5	DK	Respondents
Limassol	4	2	13	28	30	0	77
Percentage	5.2%	2.6%	16.9%	36.4%	39.0%	0.0%	77
Nicosia	1	2	24	22	24	2	75
Percentage	1.3%	2.7%	32.0%	29.3%	32.0%	2.7%	75
Nicosia and Limassol	5	4	37	50	54	2	152
Overall Percentage	3.3%	2.6%	24.3%	32.9%	35.5%	0.0%	152

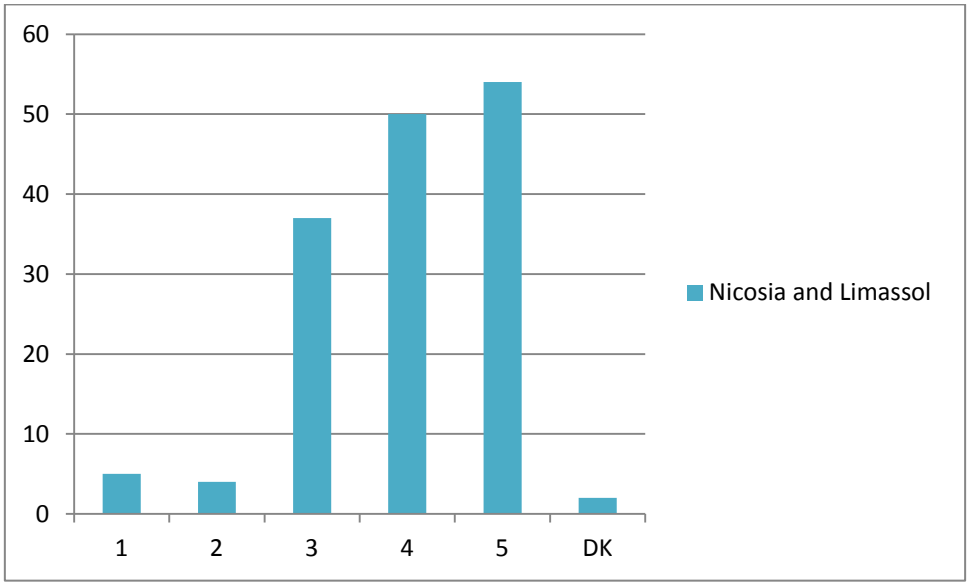




d. I would pay to see creative events in public spaces

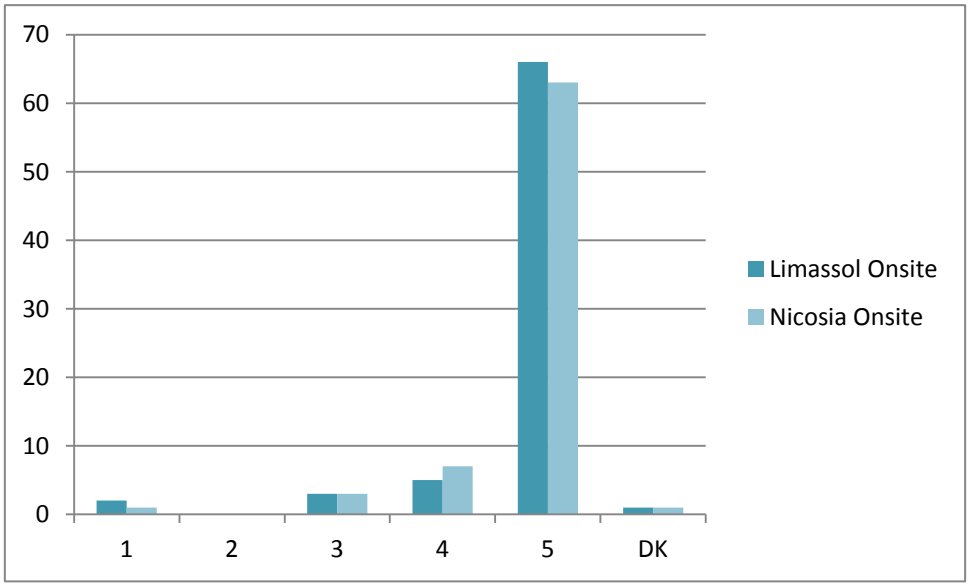
	1	2	3	4	5	DK	Respondents
Limassol	8	4	17	28	20	0	77
Percentage	10.4%	5.2%	22.1%	36.4%	26.0%	0.0%	77
Nicosia	6	10	16	26	17	0	75
Percentage	8.0%	13.3%	21.3%	34.7%	22.7%	0.0%	75
Nicosia and Limassol	14	14	33	54	37	0	152
Overall Percentage	9.2%	9.2%	21.7%	35.5%	12.5%	0.0%	152

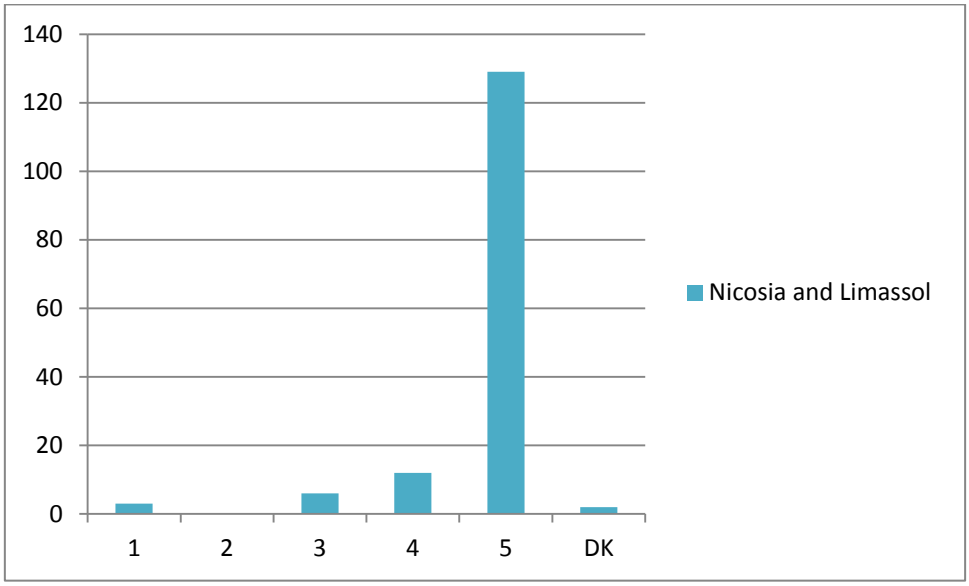




e. Municipalities need to provide us more public spaces

	1	2	3	4	5	DK	Respondents
Limassol	2	0	3	5	66	1	77
Percentage	2.6%	0.0%	3.9%	6.5%	85.7%	1.3%	77
Nicosia	1	0	3	7	63	1	75
Percentage	1.3%	0.0%	4.0%	9.3%	84.0%	1.3%	75
Nicosia and Limassol	3	0	6	12	129	2	152
Overall Percentage	2.0%	0.0%	3.9%	7.9%	84.9%	0.0%	152

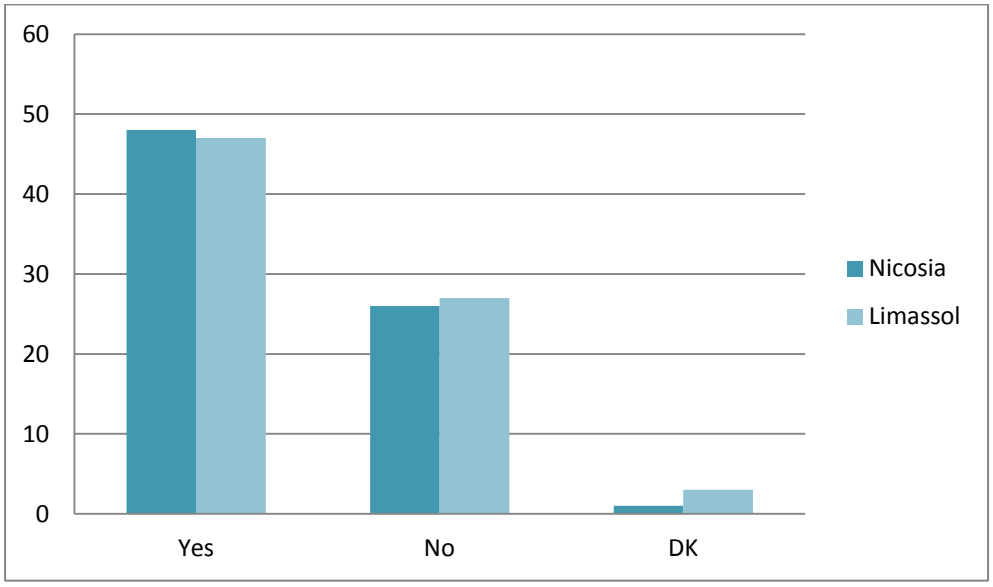


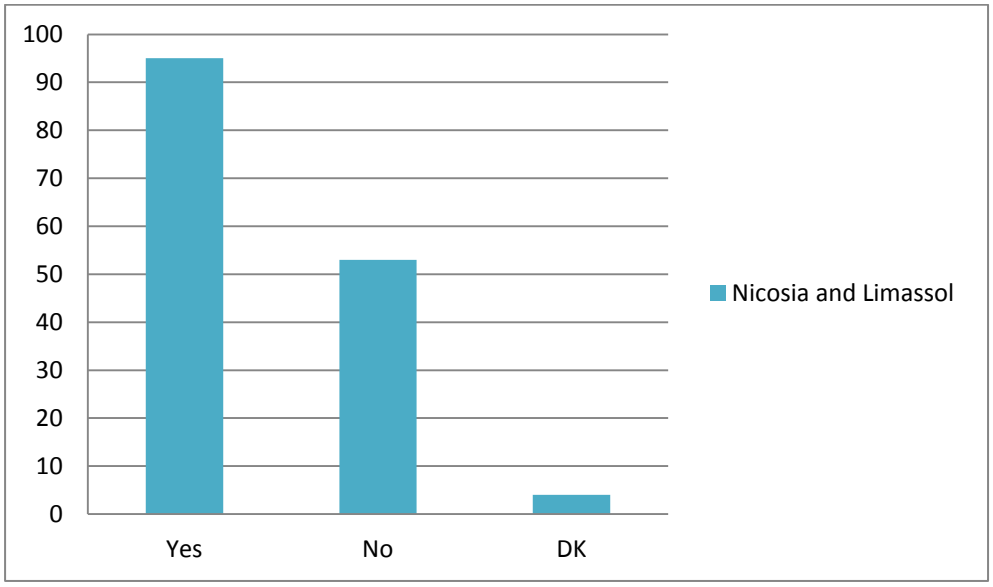


Section 5: An Instinctive response

Question 12: Did you play today? (Respondent asks what you mean by play: By play we mean anything that you did for your entertainment and fun)

	Nicosia	Percentage	Limassol	Percentage	Nicosia and Limassol	Overall Percentage
Yes	48	64.0%	47	61.0%	95	62.5%
No	26	34.7%	27	35.1%	53	34.9%
DK	1	1.3%	3	3.9%	4	2.6%
Respondents	75	75	77	77	152	152





Section 6: Personal Information

Gender	Number	Percentage
Male	62	40.7%
Female	90	59.3%
Respondents	152	*152*

Age	Number	Percentage
18-24	35	23%
25-34	52	34.3%
35-44	33	21.7%
45-54	13	8.55%
55-64	13	8.55%
65+	6	3.9%
Respondents	*152*	*152*

Highest level of education	Number	Percentage
Up to elementary	1	0.65%
Up to lower secondary	1	0.65%
Up to Secondary	20	13.15%
Bachelor	76	50%
Post-graduate	54	35.5%
Respondents	152	152

How did you come to the event?	Number	Percentage
Car	104	68.5%
Public Transport	4	2.6%
Foot	40	26.3%
Bicycle	4	2.6%
Other	0	0%
Respondents	152	152

Nationality	Number	Percentage
Cypriot	114	75%
Other EU	27	17.7%
Other Europe	5	3.3%
Asia	4	2.6%
Africa	2	1.4%
America	0	0 %
Other	0	0%
Respondents	152	152

Appendix 6.7: Post Event Focus Group
Interviewer 1 – Rene Carraz
Interviewer 2 – Anna Merry

Date: April 22nd 2015 10am
Place: Frederick University, Limassol Camous, Room 103

Interviewer 1: Can you give us any overall opinions?
Person 1: I didn't think that the project would have such an impact – I didn't realise that so many people would ask questions. It is difficult to understand and believe in an idea sometimes, but because so many people asked questions I think it was successful.

Interviewer 1: Do you think it was important to interact with people during the set up then?
Person 1: Actually yes
Person 2: I think it was a good idea.

Interviewer 1: In relation to pathways to the bubble.
Person 1: Conversation starter
Person 2: Materials should have been thought of further.

Interviewer 1: How did you feel about the event overall?
Person 3: It changed the perception of the space we aren't used to this.

Interviewer 2: Was it important on the day to interact between the designer and the public? Do you think this could be an important factor in public art?
Person 4: Yes, because a lot of people don't go to galleries – they don't know how art works.

Interviewer 1: There were many other events around. Do you think the bubble attracted?
Person 1: Without it, it wouldn't be so attractive.
Person 2: Maybe I wouldn't have noticed without the bubble.
Person 4: The bubble was the attraction.
Person 1: Without the bubble it's just an event, I wish it would stay to be honest.

Interviewer 2: Do you think you would get bored?
Person 1: Maybe, but it was so great to see people go inside and stay and talk.

Interviewer 2: For example, the statues – do you think people would be excited later after the bubble?
Person 4: No, it was all about the bubble.

Interviewer 2: So, this was about the temporality of the bubble?
Person 2: Yes, it would be great to have the opportunity all the time in different ways.
Person 1: I wish art was always outside.

Interviewer 1: Did you feel different during day and during night?
Person 3: It was very impressive during the night; it created a completely different atmosphere. This was mainly through the lighting.

Interviewer 2: Did you go to any other cities?
Person 2: I went to Paphos.

Interviewer 2: How did you feel it was different?
Person 2: Limassol was good but the visual setting of Paphos was really nice.

Interviewer 1: The problem with Paphos was how large the site was and the bubble seemed almost lost. Limassol was really good with the flow. It attracted more into the castle.

Interviewer 2: If I told you that on the Saturday 45% more people went in the grounds, would it surprise you?
Person 2: No, because there was how a reason to go inside.

Interviewer 2: Was the experience playful?
Person 1: Yes

Interviewer 2: Did you feel you played?
Person 5: Yes, otherwise I would be home watching TV.

Interviewer 2: How did you play?
Person 1: I saw three of the girls sitting in the corner and they were taking a selfie. One man thought that they were part of the installation and thought there were free selfies inside.

Interviewer 2: It is interesting to see how something so simple can cause strangers to do things out of the ordinary. If the bubble wasn't there, I don't think the man would think 3 people taking a selfie was a performative work.

Interviewer 1: what would have been a price you would pay to go in the inflatable?
Person 1: 1 Euro
Person 2: 5 Euro
Person 3: 50 cents
Person 4: I don't know if I would give or look from afar.
Person 5: Up to 5
Person 6: If you would donate the money, I would give more.

Interviewer 2: So, you all spoke to people that you didn't know
Everyone: Yes
Person 1: All were curious to know what is going on.

Interviewer 1: Thank you again for your time: I would like to let you know that the tube will be utilised again this Sunday at an event in Nicosia – the youth festival where the bubble will be transformed into a beach.

Appendix 6.8: Interview – Theopitsi Stylianou-Lambert

24th June 2015, 2pm, Cyprus University of Technology

What is your view on the playful experience in relation to photographic interaction?

Firstly, anything that makes us excited, secondly anything we experience as an important event or anything we wish to share with others we take a photograph. I think that is why you have such a high percentage of people taking photos during the events. The addition of the smart phone allows for this.

Photos may also be taken for note taking; sometimes we want to photograph things that make an impression on us without thinking too much about it.

Can you relate this to your research?

What I noticed about my participants in the museum study is that it didn't really matter if they would use the pictures in the future as we can never really measure if their intensions happen. This may only be used as predictions or thoughts, but we can take educated guesses.

A participant may never use the picture again, but they felt good that they took it.

One future reason for photograph taking is the uploading to social media, what are your thoughts?

This may be an important part of the experience, but it is the photography itself which is the main part of the experience. Photography is the tool for the personal creativity, it can be used in many different ways, but ultimately it is a tool to experience self creativity.

In the beginning what made an impression on me was how differently people used photography, photography as a tool doesn't change what people would usually do, for example it won't make u put a photo on social media that you usually wouldn't but if you like sharing photos you might use photography to show something rather than telling.

Photography is a way of communication and sharing visually or alternatively a way of remembering. It could also be classified as a method of self identity.

The addition of phone cameras also allows for quick communication... We see heighted photography due to the ease of access to a camera.

Can you comment on the diagram for interaction analysis?

In terms of the diagram for interaction it makes an impression on me that you have photography and video as an important part of the interaction and the communication.

I have identified that we can take a direct, secondary photographs as well as 'selfies' – are there other dimensions?

(Theopitsti, presented her most recent research project: Her research consists of photographs which have been taken of people posing in front of most popular sites in the world. Her research has collected 3000 images where permission was received to use them for research purposes.

We are categorising them with the idea of interactions with spaces or objects. We have seen that most interaction is with the actual objects within the space rather than the spaces themselves. We are trying to categorise but the dimension we didn't look at was photographing the object itself, which you have. We concluded that we have 6 dimensions:

1. Simple posing
2. Performing in the space (space as a stage) eg – outside pyramid – I dance like an Egyptian
3. Pointing
4. Interaction photographic – create a 3D Space – 2d back to 3d – example – holding up leaning tower of Pisa (This is the category where we actually witnessed the most examples)
5. Actions just to be photograph
6. Some people photograph the photographer and the poser and the object

For some reason there is a deeper need to take these kinds of photos

In this sense then, how do you categorise the tool of photography?

For me the photography is the playful interaction and creation of experience, it is clearly visual play which involves physical interaction but the result is playful interaction in the 2 dimensional form.

Can you give me any further comments of the diagram for user interaction?

What do you mean by second hand photography? As I have some suggestions. Maybe first and second hand maybe needs to be distinguished more.

Secondary means to photograph another person interacting with the design, although I was not sure whether to split this in to 2 categories. It could be a. Posing and b. Action?

Yes I agree, I believe you sound split the category into 2 as suggested, maybe a. found photography and b. posed as a distinction between the 2.I believe it shouldn't be called secondary because it makes the category seem not so important, where as it may be more important even and maybe more interactive. The direct is first reaction where as we then move on and evolve and become more creative.

In terms of the levels of interaction with the object action is to cause a reaction, I believe that you can't really separate the individual experience to multiple. I believe collaborative would be a better word.

Appendix 7.1: User Actions Cross-referenced

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Talking	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	20	20%	32	40%	55	45%	12	23%	64	36%	27	18%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	6	21%	7	10%	54	56%	8	11%	4	10%	39	22%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	0	0%	5	11%	75	41%	91	46%	22	17%	38	27%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	0	0%	0	0%	168	44%	18	29%	11	23%	117	36%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	0	0%	82	39%	2	1%	0	0%	41	25%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	68	40%	3	23%	8	15%	69	50%
Total Number Observed	0		0		171		13		53		138	

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Photography	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	2	2%	2	3%	14	11%	2	4%	22	12%	21	14 %
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	2	7%	19	24%	9	9%	2	3%	2	5%	37	21 %
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	9	15%	4	9%	32	17%	11	6%	23	18%	16	11 %
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	16	43%	2	3%	26	7%	9	15%	9	18%	29	9%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	0	0%	26	12%	0	0%	5	11%	1	1%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	20	12%	0	0%	1	2%	16	11 %
Total Number Observed	0		0		171		13		53		138	

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Observing	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	27	27%	15	19%	32	26%	14	26%	77	43%	80	54%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	2	7%	14	18%	12	12%	21	28%	5	13%	30	17%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	9	15%	11	24%	50	27%	75	38%	69	53%	78	55%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	2	6%	23	31%	111	29%	12	19%	14	29%	163	50%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	3	60%	5	83%	87	41%	12	63%	27	56%	113	68%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	48	28%	6	46%	22	41%	37	27%
Total Number Observed	0		0		171		13		53		138	

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Sitting	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	4	4%	4	5%	5	4%	8	15%	5	3%	0	0%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	4	14%	5	6%	4	4%	7	10%	11	27%	7	4%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	7	12%	1	2%	13	7%	11	6%	5	4%	2	1%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	0	0%	2	3%	43	11%	6	10%	3	6%	12	4%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	1	17%	5	2%	0	0%	0	0	0	0%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	11	6%	0	0%	2	4%	0	0%
Total Number Observed	0		0		171		13		53		138	

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Playing	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	3	3%	21	26%	0	0%	1	2%	0	0%	8	5%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	3	10%	0	0%	2	2%	0	0%	0	0%	0	0%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	6	11%	0	0%	0	0%	5	3%	0	0%	2	1%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	0	0%	4	5%	7	2%	0	0%	4	8%	10	3%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	2	40%	0	0%	8	4%	0	0%	6	12%	3	2%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	13	8%	0	0%	9	17%	4	3%
Total Number Observed	0		0		171		13		53		138	

Limassol	Inside Pre – Design Week 1		Inside Pre – Design Week 2		Inside During Design		Outside Pre – Design Week 1		Outside Pre – Design Week 2		Outside During Design	
Action - Other	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Friday 12pm – 1pm	43	44%	6	7%	17	14%	15	28%	11	6%	13	9%
Total Number Observed	99		80		123		53		179		149	
Friday 3pm – 4pm	12	10%	33	42%	16	17%	35	48%	18	45%	7	4%
Total Number Observed	29		78		97		73		40		178	
Saturday 12pm – 1pm	28	47%	25	54%	14	8%	3	1%	11	8%	6	4%
Total Number Observed	59		46		184		196		130		142	
Saturday 3pm – 4pm	19	51%	43	58%	23	6%	17	27%	8	16%	7	2%
Total Number Observed	37		74		378		62		49		329	
Nicosia												
Saturday 12pm – 1pm	0	0%	0	0%	4	2%	5	26%	10	21%	8	5%
Total Number Observed	5		6		212		19		48		166	
Saturday 3pm – 4pm	0	0%	0	0%	11	6%	4	31%-	11	21%	12	9%
Total Number Observed	0		0		171		13		53		138	

Appendix 7.2: Levels of Users Spatial Interactions

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	27	13%	51	12%	122	29%
Viewing & Reacting	14	7%	77	19%	80	19%
Ambiance/Apparent Unawareness	169	80%	288	69%	213	52%
Total	210		416		415	

12-1pm Limassol Friday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	34	14%	42	20%	224	53%
Viewing & Reacting	21	8%	5	2%	30	7%
Ambiance/Apparent Unawareness	193	78%	174	78%	166	40%
Total	248		221		420	

3-4pm Limassol Friday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	73	10%	42	10%	245	26%
Viewing & Reacting	75	10%	69	16%	78	8%
Ambiance/Apparent Unawareness	552	80%	312	74%	629	66%
Total	700		423		952	

12-1pm Limassol Saturday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	48	5%	59	9%	496	45%
Viewing & Reacting	18	2%	11	2%	117	10%
Ambiance/Apparent Unawareness	813	93%	574	89%	507	45%
Total	876		644		1120	

3-4pm Limassol Saturday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	5	4%	6	2%	250	64%
Viewing & Reacting	12	10%	27	8%	113	29%
Ambiance/Apparent Unawareness	103	86%	322	90%	26	7%
Total	120		355		389	

12-1pm Nicosia Saturday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	0	0%	0	0%	252	45%
Viewing & Reacting	6	7%	22	6%	69	12%
Ambiance/Apparent Unawareness	81	93%	320	94%	237	57%
Total	87		342		558	

3-4pm Nicosia Saturday

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	182	9%	194	11%	1087	37%
Viewing & Reacting	122	6%	165	10%	305	11%
Ambiance/Apparent Unawareness	1727	85%	1348	79%	1515	52%
Total	2034		1704		2907	

Limassol Total

Level of User Interaction (Spatial)	Pre- Event Week 1		Pre- Event Week 2		During Event	
	Number	Percentage	Number	Percentage	Number	Percentage
Direct	5	2%	6	1%	502	53%
Viewing & Reacting	18	9%	49	71%	182	19%
Ambiance/Apparent Unawareness	184	89%	642	92%	263	28%
Total	207		697		947	

Nicosia Total